



CAS MAG

The official magazine of the Canterbury Astronomical Society

www.cas.org.nz www.facebook.com/CanterburyAstronomicalSociety

Monthly Meeting: **Our Monthly Meetings are held in ER225 Ernest Rutherford Building**

6.30–7.30pm - CAstronauts & Introduction to Astronomy for Beginner's

7.30 - 8pm - Refreshments

8pm - Meeting Starts

PLEASE REMEMBER TO SIGN THE ATTENDANCE BOOK AS WE STILL NEED TO KEEP A RECORD FOR CONTACT TRACING AS WELL AS USING THE NZ COVID SCAN WE HAVE AVAILABLE.

SEPTEMBER MEETING: 21st September 2021

Antonio Herrera Martin Postdoc working under Prof Micheal Albrow, "Gravitational Lensing as a Astronomical Tool"

This will be via ZOOM online meeting and the link will be posted on our website

WE are unable to use the Uc Room to meet until we are at level 1

CAS Membership Subscriptions for 2021

THIS YEARS MEMBERSHIP SUBSCRIPTIONS ARE NOW OVERDUE

Please use your name and member number as a reference when banking, then email membership@cas.org.nz to advise so payments can be matched to you correctly. **PLEASE also include any changes to your details (eg: phone, email, address)**

IT IS VERY IMPORTANT THESE DETAILS ARE KEPT UP TO DATE.

Full details are included on the last page of this newsletter.

You are also welcome to pay by cash at our monthly meetings.

NOTE: We can no longer accept cheques for payments

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From Your Editor

This is your Casmag, for YOU our members,
So I welcome any ideas or articles you would like to share with the other members. Please email your Article or favourite photo with details so I can include it in future issues.

Deadline for each issue is 1st of each month

Remember you can have your advert added in the future casmag's,
(see page 14 for details)

Any questions, Ideas or suggestions please email to editor@cas.org.nz

Dale Kershaw

From 7.2.4.6 on page 15 of Constitution of the Society

"Any member wishing to have an article or paper published in CASMAG or other publications of the society shall in the first instance, forward a copy to the editor who may request the approval of the committee before publication."

DISCLAIMER:

This newsletter is for general information purposes only. The views expressed herein are not necessarily those of the Canterbury Astronomical Society Inc (CAS)

CAS has taken all reasonable measures to ensure that the material contained herein is correct, but gives no warranty for, and accepts no responsibility for its accuracy or completeness.

Readers are advised not to rely solely on this information, and should seek independent advice before making any decision, CAS reserves the right to make changes at any time, as deemed necessary.

COMING UP IN NEXT MONTHS ISSUE

New Puzzles

Next part of A Beginners Guide to Astrophotography

IMPORTANT UPDATE FROM YOUR COMMITTEE

Covid-19 level Operations

Please find below an update from the committee on observatory operations during COVID Level 2 restrictions.

Public Open Nights While in principle we could hold public facing events such as open nights, the practicality of trying to maintain social distancing, contact tracing, and mask requirements make this impractical.

Additionally, there is a high likelihood demand for spaces would be low and the operation of these nights places an unnecessary burden on volunteers at this time.

As we only have a few nights left before the season ends, the COVID Response Committee has made the decision to cancel the remaining three nights this season, due to end on 24 September.

If circumstances change rapidly we could squeeze in nights in early October, but this remains unclear at this time. A further announcement will be made if changes allows us to operate.

CAS Events At the UC will not allow access until Level 1, the next members meeting (21st September) will be via zoom only.

An invite will be sent out before the meeting. Training nights and members nights at the observatory are cancelled until further notice.

We will continually evaluate when we may be able to safely restart these.

Observatory Use Adhoc use of the observatory is allowed under Level 2 Delta but with the following guidance and parameters:

Do not visit the observatory if unwell.

Please sign in using the COVID tracer app using the QR code in the lodge.

Prior to your visit please post on the observatory activity forum when you intend visiting, or contact Terry our observatory director (number is on the site contacts page).

If you intend to remain outside and not enter the lodge at anytime then there is no requirement to enter the lodge to sign the logbook.

Maintain 2 m distancing inside or out.

You must wear a mask inside, or where 2m distancing cannot be safely maintained outside

No more than 4 people in the lodge at any one time and social distancing must be maintained at all times.

No more than one person in telescope buildings, both inside, or in roll off areas, unless assistance is required (use masks if more than 1 person).

Please maintain your hygiene and be aware that surfaces and equipment may be contaminated and we cannot guarantee your safety. Wash / sanitise hands using the gear provided.

Do not clean optics as the sanitising chemicals can cause damage to equipment.

We will keep you informed as to any changes when the government announces them.

Please follow the rules at the observatory if visiting, and please stay safe

CAS Calendar SEPTEMBER -NOVEMBER 2021

SEPTEMBER 2021

Tuesday 7th	New Moon
Tuesday 14th	First Quarter
	Committee Meeting
Tuesday 21st	Full Moon
	Castronauts meeting 6.30-7.30pm
	Members Meeting ONLINE VIA ZOOM
Saturday 25th	Members Night at Observatory (if covid levels change)
Wednesday 29th	Last Quarter



OCTOBER 2021

Saturday 2nd	New Members training at Observatory
Thursday 7th	New Moon
Tuesday 12th	Committee Meeting
Wednesday 13th	First Quarter
Tuesday 19th	Castronauts meeting 6.30-7.30pm
	Members Meeting at University from 7.30pm
Thursday 21st	Full Moon
Saturday 23rd	Members Night at Observatory
Monday 25th	Labour Day Holiday
Friday 29th	Last Quarter

NOVEMBER 2021

Friday 5th	New Moon
Saturday 6th	New Members training at Observatory
Tuesday 9th	Committee Meeting
Friday 12th	Canterbury Anniversary Holiday
Tuesday 16th	Castronauts meeting 6.30-7.30pm
	Members Meeting at University from 7.30pm
Friday 19th	Full Moon
Saturday 20th	Members night at Observatory
Sunday 28th	Last Quarter

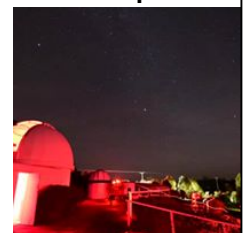
PUBLIC OPEN NIGHTS

Our public open night season has started and we have managed to hold 2 Friday nights plus some Wednesday groups, We always welcome your help on these nights.

We ask all who are able to help out to advise us by using

<https://cas.ivolunteer.com/2021>

We have decided to cancel the remaining public open nights for 2021 (see page 3)



Any changes to Open Nights will be published on our Facebook public page and our website. Training is always available & this works towards your accreditation

MONTHLY MEETINGS:

Meeting Venue:

**Room ER 225 in the Ernest Rutherford Building, University of Canterbury, (1 building over from the east building we used last year)
Entrance to the building will be via the north side entrance,
Then using the lift or stairs up to level 2**

Carol McAlavey is asking you, our members to make suggestions or offer to give a talk at our monthly meetings.

PLEASE CONTACT CAROL WITH YOUR SUGGESTIONS OR IF YOU CAN GIVE A TALK via member2@cas.org.nz

Upcoming Members Meetings

21st September: Online via Zoom see website for the link

Antonio Herrera Martin

Postdoc working under Prof Micheal Albrow

"Gravitational Lensing as a Astronomical Tool"

19th October: **John Pickering**

"Searching for Alien Worlds"

16th November: **Simon Lewis**

"Interpreting Astronomical Images"

Reminder we do not hold any CAS Members meetings in December or January

(correct as at 7th September 2021, Subject to change as required)

Many thanks go to Sharlene Wilson and Orlon Petterson from the School of Physical and Chemical Sciences, University of Canterbury for arranging the meeting room for CAS this year.

Also Thanks to Associate Professor Karen Pollard for organising the Lecture theatres for our public talks

PLEASE Remember we are only able to hold our meetings at the University at Covid-19 Level 1

We will update the website if there are any changes and will host meetings via ZOOM if possible:

CAS YOUTUBE CHANNEL

Have a look at our new you tube channel

<https://www.youtube.com/channel/UChLhFm7yaLUTlgH3IJvA11g>

CAS CHRISTMAS BBQ NIGHT



Committee have set the date for this
years Christmas BBQ

SATURDAY 4TH DECEMBER

Mark this in your calendars and we will have more
information in next months Casmag for you



CASMAG PUZZLE PAGE

Uranus

1. Umbriel is very _____ compared to the other moons of Uranus
2. A year on Uranus is _____ Earth years long
3. The moon Miranda has a cliff that is higher than Mount _____ here on Earth
4. The moon Ariel has one side that is criss-crossed by large _____
5. A day on Uranus is _____ Earth hours long
6. Uranus is the _____ planet from the Sun
7. Uranus is tilted up on its _____
8. The moon Oberon has a mountain that is over ___ miles high
9. The large _____ of Uranus changes our view of it
10. _____ is the largest moon of Uranus
11. Uranus was visited by the _____ mission

Uranus



CAS 2022 CALENDAR

Your committee has decided to create a “CAS 2022 Calendar” to sell as a Fundraiser,

We are asking for our members to submit any photos they would like to be considered for this publication.

Full credit will be given to you as who took the photo and with any details re equipment used.

If you have a photo or 2 you would like to be considered for this publication please post on the website using

- * **MY GALLERY**
- * **select Post Image**
- * **Select Calendar 2022 and up load your image**



You are submitting on the understanding that images may be selected for publication in our calendar - IP remains the ownership of the author

TABLE OF SOUTHERN METEOR SHOWERS 2021

Shower	Dates		Moon	Peak Rate	RA	Dec	Near Star
	Active	Peak					
Centaurids	Jan 28 - Feb 21	Feb 8	3 days after Last quarter	5 (-25)	14.1	-59	β Cen
gamma-Normids	Feb 25 - Mar 22	Mar 13	New moon	8	16.6	-51	γ Nor
pi-Puppids	Apr 15 - Apr 28	Apr 23	3 days after First quarter	var to 40	7.3	-45	σ Pup
eta-Aquariads	Apr 19 - May 28	May 5	1 day after Last quarter	60	22.5	-1	η Aqr
Pisces Austrinids	Jul 15 - Aug 10	Jul 27	3 days after Full moon	5	22.7	-30	α PsA
alpha-Capricornids	Jul 3 - Aug 15	Jul 30	2 days before Last quarter	4	20.5	-10	α Cap
Southern delta-Aquarids	Jul 15 - Aug 25	Jul 27	5 days before Last quarter	20	22.6	-16	δ Aqr
Southern iota-Aquarids	Jul 25 - Aug 15	Aug 4	3 days after Last quarter	2	22.3	-15	ι Aqr
Northern delta-Aquarids	Jul 15 - Aug 25	Aug 13	3 days before First quarter	4	22.3	-5	θ Aqr
Northern iota-Aquarids	Aug 11 - Aug 31	Aug 19	3 days after First quarter	3	21.8	-6	β Aqr
Piscids	Sep 1 - Sep 30	Sep 19	2 days before Full moon	3	0.3	-1	λ Psc
Orionids	Oct 2 - Nov 7	Oct 21	Full moon	20	6.3	+16	γ Gem
Leonids	Nov 14 - Nov 21	Nov 17	2 days before Full moon	100+	10.2	+22	γ Leo
alpha-Monocerotids	Nov 15 - Nov 25	Nov 22	3 days after Full moon	var to 5	7.9	+1	δ Mon
Pheonicians	Nov 28 - Dec 9	Dec 6	2 days after New moon	var	1.2	+53	Achernar
Geminids	Dec 7 - Dec 14	Dec 14	3 days after First quarter	120	7.3	+33	Castor

NOTES FROM YOUR COMMITTEE

SIGNING IN WHEN YOU ARE AT THE OBSERVATORY

Please remember to sign in the book on the table in the Lodge whenever you are out at the observatory, This helps give us an idea of who has been using the equipment etc, even if you are out there to do gardening or the like PLEASE SIGN THE BOOK and add what you have been doing, Also please note and issues that have happened or that need fixing, and its good to follow that up with a email or phone call to Terry or the committee

CAS COFFEE MUGS & PENS

With our new logo we have had Coffee Mugs printed and also Pens which we have for sale to our members,
Coffee Mugs are \$15.00 each
Pens are also available to members (extras are \$2.50)
Waterproof Stickers with our new logo are also available
Payment can be cash or bank deposit

They are available from Editor (Dale),
contact via editor @cas.org.nz
or 0272426376



EDITOR NOTES

The governments news announcement on August 17th, reminded us all how quickly things can change.

Hopefully everyone has been able to coped with the latest lockdown and was able to catch up on some jobs round the home. I know I was able to catch up on some much needed gardening, also working on some of my hobbies.

Personally I would like to say many thanks to those essential workers who continued to carry on with their jobs, Thanks also to All who worked from home during this time,

I am looking forward to being able to meet up with my CAS friends out at the observatory once we change to level 1.

Hoping for clear skies

Dale.K



OBSERVATORY NEWS IMPORTANT INFORMATION

DOOR CODE & ALARM AT THE OBSERVATORY

The door code and Alarm code has been changed since our March AGM
Ask a committee member for the passwords.

INTERNET WI-FI:

Ask a committee member for the password

LASER POINTERS:

There is a legal requirement when importing them, and information is on our website and at the observatory, CAS has a drafted a set of guidelines which we were presented at our AGM and were voted and added to our By-Laws, If you need a letter confirming your membership for your application, please contact either membership secretary or secretary, (This letter will state you are a current financial member of our society)

ACCREDITATION

A reminder that unless you have full accreditation on the equipment you are not to use the equipment unless there is an accredited person with you.

Full training is available

There is a full list of accredited person's on the wall above the kitchen sink inside the lodge

contact Terry (our Observatory directory via his email listed on our website or the inside back page casmag

14 inch DOME REPAINTING

During this latest lockdown Terry has been very busy at the Observatory, As part of his role he has been visiting the Observatory (he made this part of his bubble) to check, security and work on a few tasks, including the Cleaning and repainting of the 14 inch Dome following is repairs earlier this year.

Photo:
Terry Richardson



OBSERVATORY NEWS IMPORTANT INFORMATION

New Security System in Lodge

We are trialling a new security system in the Lodge. This takes the form of an intrusion sensor outside, and a Wifi cam inside the lodge in the back corner at the car park end. The intention is to add another camera outside the lodge overlooking the car park area. The advantage of these is that they will trigger on intrusion alert and can be viewed remotely in real time or reviewed within 2 weeks. These are not for the purpose of watching people, but rather to check that entry to the lodge is by legitimate members. Given the assets we have on site, this is necessary for any insurance claims. Access to these cameras is limited to Webmaster, Vice President and Observatory director only. We already have a surveillance network installed (several years ago) which records to a hard drive but cannot be remotely viewed in real time.

If anybody needs to know more please feel free to email me
observatory.director@cas.org.nz
Terry Richardson

SECURITY FOR OBSERVATORY KEYS- Accredited Members

Committee have decided that we need improved security for access to the observatory equipment. From now all keys are stored in a lock box in the library. Any accredited member will be given the combination (just ask me). This includes the key to the equipment room and for the dobs. Although the dobs do not require formal accreditation, they are precision instruments that can be damaged if not used correctly. A member accredited on any of the scopes can open these for you. Members still have free access to the lodge and its facilities, but any other access will require an accredited person to be present. Any accredited member can get access to the keys, but of course can only use (or supervise) the instrument they are accredited for. This sounds a bit restrictive, but has become necessary due to recent misuse and possible damage to some instruments.

Any questions please email me
observatory.director@cas.org.nz
Terry Richardson



RECENT LIGHT POLLUTION STUDY PRESS RELEASE

Rapid increase in global light pollution

Global light pollution has increased by at least 49% over 25 years, [new research shows](#).

This figure only includes light visible via satellites, and scientists estimate the true increase may be significantly higher – up to 270% globally, and 400% in some regions.

The study, led by the University of Exeter, examined light emissions from 1992 to 2017.

The findings show differing regional trends, but emissions have increased almost everywhere and there is "limited evidence" that improved technology has cut light pollution.

"The global spread of artificial light is eroding the natural night-time environment," said first author [Dr Alejandro Sánchez de Miguel](#), of the [Environment and Sustainability Institute](#) on Exeter's Penryn Campus in Cornwall.

"This study provides clear evidence not only of how bad light pollution has become as a global problem, but also that it is continuing to get worse, and probably at a faster and faster rate."

The study highlights the "hidden impact" of the transition to solid-state light emitting diode (LED) technology.

LEDs emit more blue light than previous lamp technologies, but satellite sensors are blind to this blue light and so underestimate the level of emissions.

Correcting for this, the authors say the actual increase in the power emitted by outdoor lighting, and thus of light pollution, may be as high as 270%.

The study finds persistently increasing light pollution in Asia, South America, Oceania and Africa.

In Europe, detected light increased until around 2010 and then levelled off, and in North America it appears to be in decline.

However, the researchers say the shift towards blue-rich LEDs masks the fact that light pollution has increased in most locations.

"To take the UK as an example, if you ignore the effect of the switch to LEDs – which has been extensive – you get the false impression that light pollution has recently declined," said Dr Sánchez de Miguel.

"However, correcting for this effect shows it has really increased, and potentially very markedly."

"Contrary to popular belief, the installation of 'broad white' LED streetlights, whilst potentially providing some energy savings, have increased light pollution and also the impacts on organisms such as moths."

Ruskin Hartley, Executive Director of the International Dark-Sky Association, said: "Over the past 25 years, the transition to solid-state LED lighting has been accompanied by rapid increases in light pollution, globally."

"Without concerted action to reverse this trend, the impact on the natural environment will accelerate, further exacerbating the biodiversity crisis, wasting energy, and meaning a whole generation will grow up in perpetual twilight."

RECENT LIGHT POLLUTION STUDY PRESS RELEASE CONT

Many studies have now shown that light pollution, from streetlights and other sources, can have major impacts on the natural environment.

Such pollution is likely to have played a role in the massive declines of insect populations.

The paper, published in the journal *Remote Sensing*, is entitled: "[First estimation of global trends in nocturnal power emissions reveals acceleration of light pollution.](#)"

The University of Exeter has launched a Green Futures campaign and website to drive action on the environment and climate emergency. To find out more please visit <https://greenfutures.exeter.ac.uk>.

Data for New Zealand

The Mid is evolution reference midnight.

Sunset is the evolution at sunset.

RAW shows the gap between both

And Evo shows the potential scenarios for LEDs of different Color temperatures.

The red point is the lower limit and the dark blue is the upper limit.

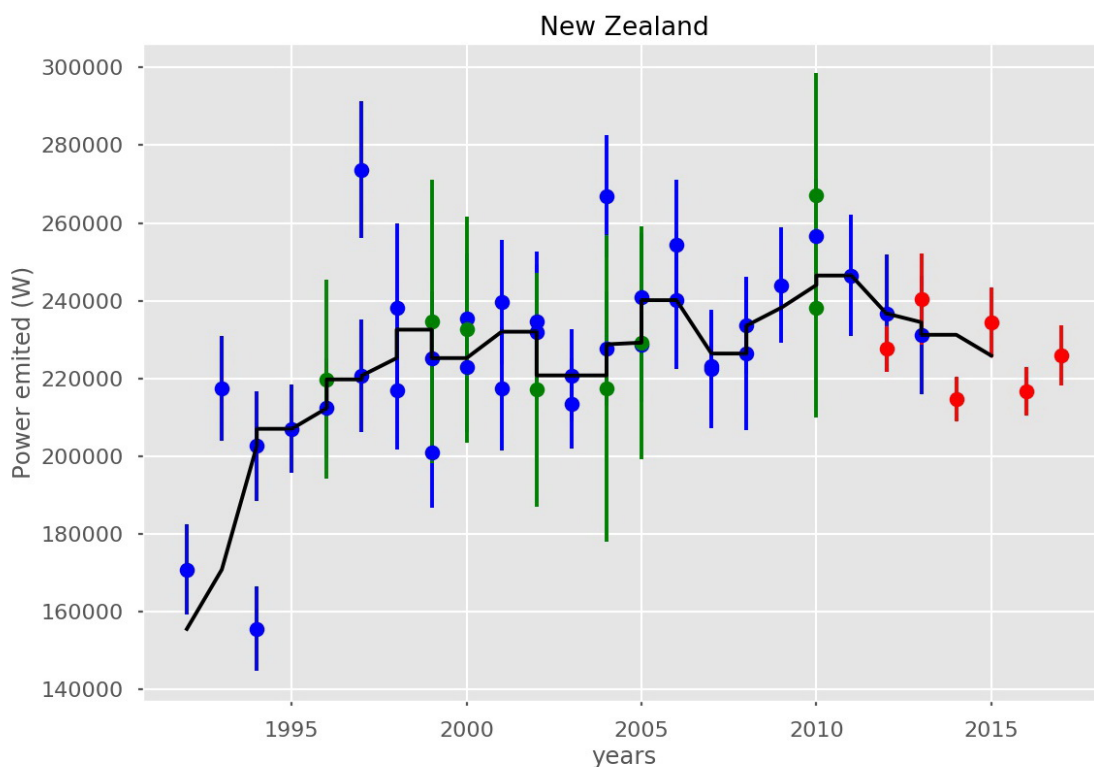
It is considering that all street lights were HPS, that is not true but is the simplification that we made.

The main goal is to show all the possible ranges of data. We do not know the truth.

Alejandro Sánchez de Miguel

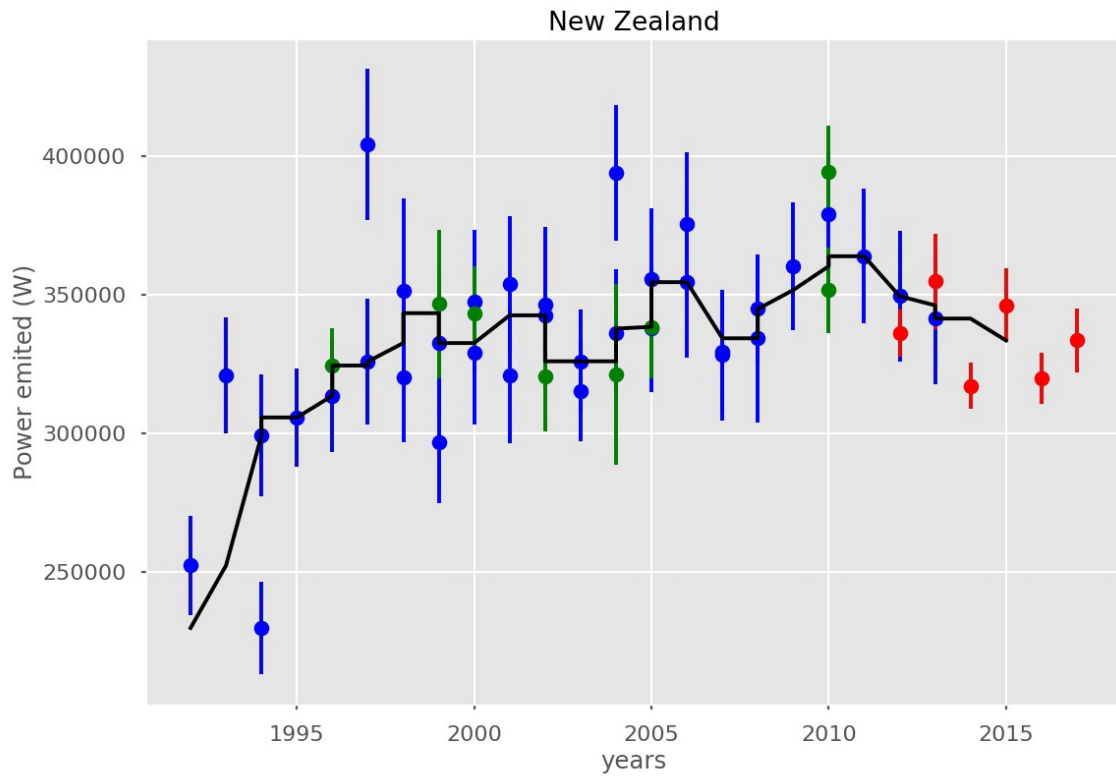
Dep. Astrofísica y CC. de la Atmósfera UCM

Nzcorr_mid-WO

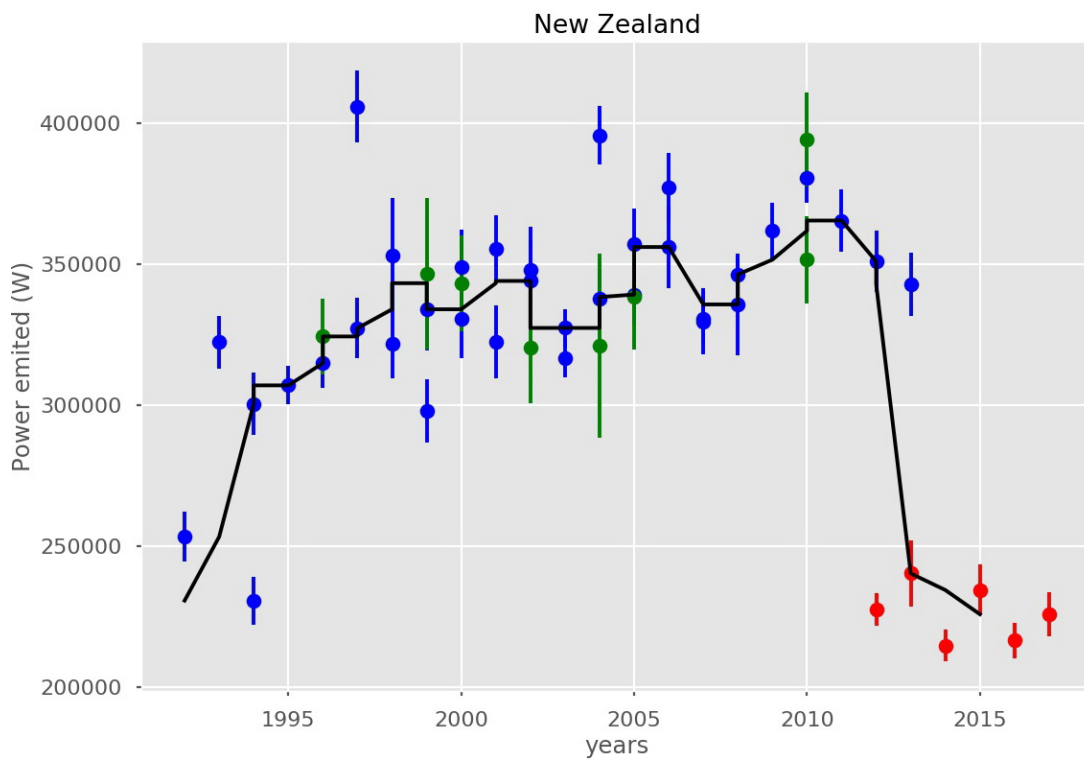


RECENT LIGHT POLLUTION STUDY PRESS RELEASE cont

NZcorr_sunset-WO

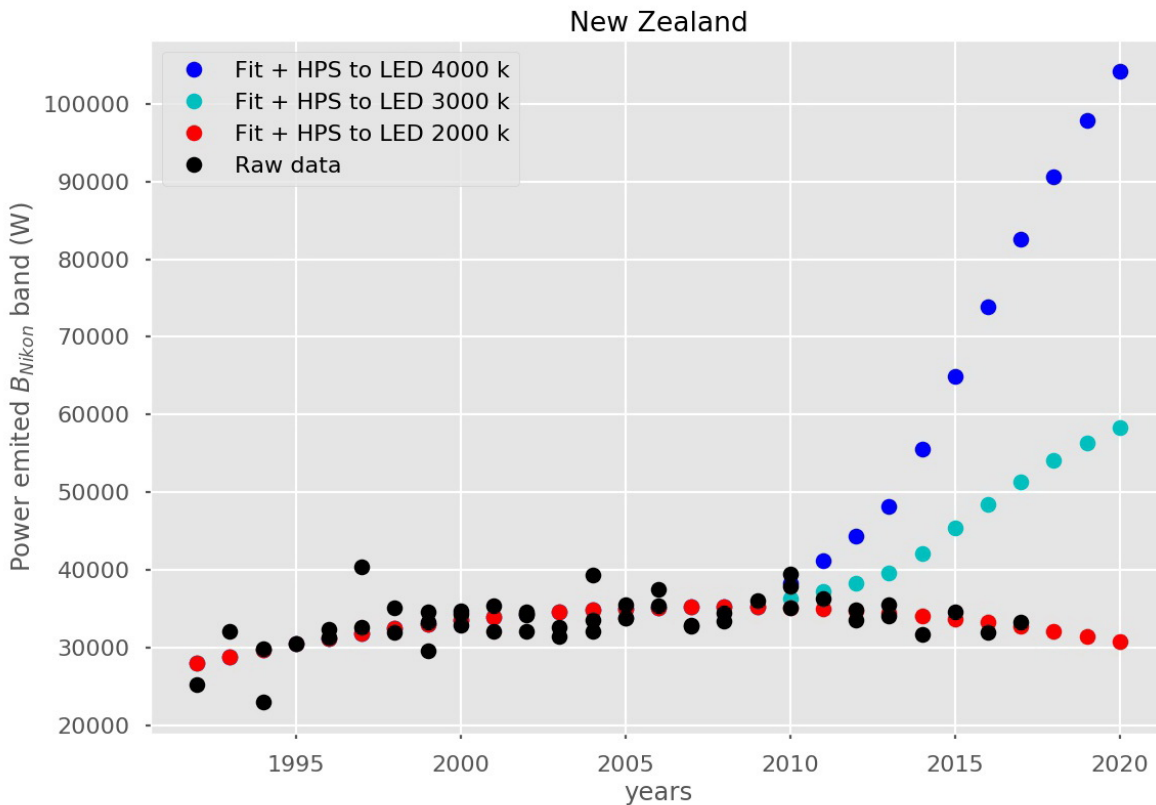


NZcorr_RAW_WO



RECENT LIGHT POLLUTION STUDY PRESS RELEASE cont

NZcorr5p3WOevo



This item was forwarded to me from Kyra Xavia @ darksky.org

Dr Alejandro Sanchez is one of the paper's authors and his research profile is in this link

<https://www.researchgate.net/profile/Alejandro-Sanchez-De-Miguel>

The Evening Sky in September 2021

Four bright planets light up the evening sky along with some of the brightest stars. **Venus** the brilliant 'evening star', appears in the west soon after sunset. Below Venus is **Mercury**, making its best evening sky appearance of the year. In the east is golden **Jupiter**. It becomes the brightest 'star' in the night sky after Venus sets. Above Jupiter is **Saturn**, looking like a medium bright star.

Venus is bright enough to be seen by eye in daylight. It is north of overhead (60° elevation) at 3 pm. It is best to look for it from a shady spot, particularly if you are using binoculars. Venus will be 5° (a binocular field) above the crescent Moon at 3 pm on the 10th.

Around the 20th **Mercury** will make a close pair with **Spica**, the brightest star in Virgo. The two stay close as both set earlier. At first Mercury is the brighter of the two but it fades. By the end of the month Mercury, above and left of Spica, will be fainter than Spica as it begins to pass between us and the Sun.

Jupiter and **Saturn** are worth a look in any telescope. A small telescope shows Jupiter's disk and the four 'Galilean' moons lined up on each side of it. A larger telescope shows stripes across the planet made by warm and cold clouds on Jupiter. Occasionally the shadow of a moon crosses Jupiter, making a tiny black spot. Binoculars show Saturn as an oval, the planet and rings blended together. Almost any telescope will separate the planet and the ring. The Moon will be near Saturn on the 17th and near Jupiter on the 18th.

Arcturus is on the northwest skyline. **Canopus**, the brightest true star in the sky, skims along the southern skyline. Both stars are shining through a lot of air which makes them twinkle colourfully. Canopus, being white, shows all colours like a diamond. Orange Arcturus twinkles red and green. Canopus is matched on the northern skyline by **Vega**, the second-brightest northern star after Arcturus.

From northern New Zealand the star **Deneb** can be seen near the north skyline in the Milky Way. It is the brightest star in **Cygnus** the Swan.

Orange **Antares**, northwest of the zenith, marks the body of the Scorpion. The Scorpion's tail hooks toward the zenith like a back-to-front question mark. It is the 'fish-hook of Maui' in Maori star lore. Below or right of the Scorpion's tail is 'the teapot' made by the brightest stars of **Sagittarius**. It is upside down in our southern hemisphere view.

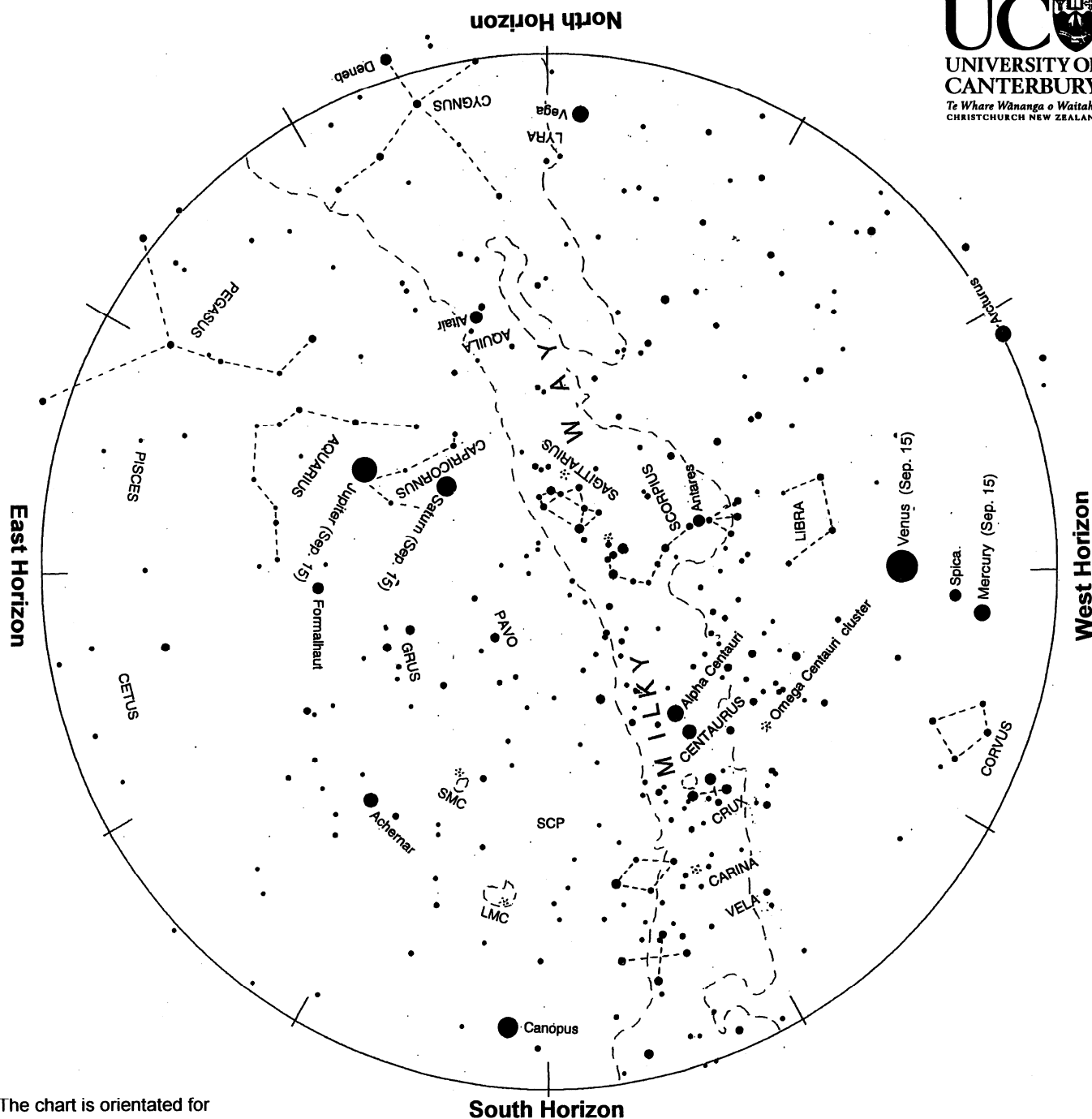
Midway down the southwest sky are 'The Pointers', Beta and **Alpha Centauri**. They point down to **Crux** the Southern Cross. Alpha Centauri is the third brightest star. It is also the closest of the naked-eye stars, 4.3 light years* away. Beta Centauri, along with most of the stars in Crux, is a blue-giant star hundreds of light years away.

The **Milky Way** spans the sky from north to south. It is brightest and broadest overhead in Scorpius and Sagittarius. In a dark sky it can be traced down past the Pointers and Crux into the southwest. To the northeast it passes **Altair**, meeting the skyline right of **Vega**. The Milky Way is our edgewise view of the galaxy, the pancake of billions of stars of which the sun is just one. The thick hub of the galaxy, 27 000 light years away, is in Sagittarius. Dust clouds near us appear as gaps and slots in the Milky Way. Binoculars show many clusters of stars and some glowing gas clouds in the Milky Way.

The Large and Small Clouds of Magellan, **LMC** and **SMC**, look like two misty patches of light in the southsky. They are easily seen by eye on a dark moonless night. They are galaxies like our Milky Way but much smaller. The LMC is about 160 000 light years away; the SMC about 200 000 light years away.

On moonless evenings in a dark sky the Zodiacal Light is visible in the west. It is a faint broad column of light extending upward around Mercury and Venus. It is sunlight reflecting off meteoric dust in the plane of the solar system. The dust may have come from a big comet, many centuries ago.

*A **light year (l.y.)** is the distance that light travels in one year: nearly 10 million million km or 10^{13} km. Sunlight takes eight minutes to get here; moonlight about one second. Sunlight reaches Neptune, the outermost major planet, in four hours. It takes sunlight four years to reach the nearest star, Alpha Centauri.



The chart is orientated for
Aug. 15 at 10 p.m.
Sep. 1 at 9 p.m.
Sep. 15 at 8 p.m.

Evening sky in September 2021

To use the chart, hold it up to the sky. Turn the chart so the direction you are looking is at the bottom of the chart. If you are looking to the south then have 'South horizon' at the lower edge. As the earth turns the sky appears to rotate clockwise around the south celestial pole (SCP on the chart). Stars rise in the east and set in the west, just like the sun. The sky makes a small extra clockwise rotation each night as we orbit the sun.

Venus, the brilliant silver 'evening star', appears in the west soon after sunset. Golden Jupiter, in the east, appears soon after. As the sky darkens Mercury appears below Venus and Saturn appears above Jupiter. Near overhead is orange Antares marking the Scorpion's body. The Scorpion's tail, a.k.a. the fish-hook of Maui, curls toward the zenith. Orange Arcturus twinkles red and green as it sets in the northwest. Crux, the Southern Cross, and the Pointers are in the southwest. Canopus twinkles like a diamond near the southern horizon. Vega shines on the north horizon. The Milky Way spans the sky from north to south.

CAS COMMITTEE AND OFFICERS 2021/2022

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City East

Christchurch 8141

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Canterbury Astronomical Society Facebook Group:

www.facebook.com/groups/CanterburyAstronomicalSociety

West Melton Observatory: 43° 29' 55.5" S, 172° 20' 59.0" E 218 Bells Road, West Melton

CAS Members Meetings:

The *CAS monthly members* meetings are currently held from 7.30pm onwards every third Tuesday of the month (except December and January) at the University of Canterbury, Room ER225 Ernest Rutherford Building (2nd floor)

CAStronauts Meeting's are 6.30-7.30, in the same venue on the same night (3rd Tuesday of the month)

Any member of the public who is considering in joining the society are most welcome to attend the meetings.

Members Nights at the Observatory are detailed on our website

Observatory Members Nights:

Cas holds these nights as follows

Members Nights (Training) on the 1st Saturday of the month

Members Nights (General) on the 3rd Saturday of the month after the Tuesday Members meeting at UC, (be aware some months it is the 4th Saturday, depending on the start of the month) check the website for details

CAS on Facebook:

Cas has a Facebook presence, Useful to keep up to date with events, interesting articles, asking for advice, For members please use the website forums for more detailed information etc

CAS Membership:

Subscriptions are due 1st April each year

Fees for current members shown on the membership form included on the back page of your Casmag,

Full details are included on our website.

Contributions to CASMAG:

Member contributions to CASMAG are always most welcome (letters, observing notes, articles, news)

Please submit articles by email to editor@cas.org.nz

The deadline for each issue is the 1st of each month

Small personal advertisements are free to financial members, (less than 8 lines in a column)

Charges for larger items range from \$5 to \$40, email the editor for more details.

The Constitution of The Canterbury Astronomical Society Inc:

This is available on request, Please ask for a copy if required

DISCLAIMER:

This newsletter is for general information purposes only. The views expressed herein are not necessarily those of the Canterbury Astronomical Society Inc (CAS)

CAS has taken all reasonable measures to ensure that the material contained herein is correct, but gives no warranty for, and accepts no responsibility for its accuracy or completeness.

Readers are advised not to rely solely on this information, and should seek independent advice before making any decision, CAS reserves the right to make changes at any time, as deemed necessary.

Canterbury Astronomical Society Inc

APPLICATION FOR MEMBERSHIP



To: Membership Secretary
 Canterbury Astronomical Society Inc.
 P.O.Box 25-137
 City East
 Christchurch 8141

Applicants Name in Full _____

Address: (Note a P.O.Box is NOT a legal address) _____

Home Phone: _____ Cell Phone: _____

Email: _____ Date of Birth: (if under 18) _____

Membership Category (*tick, subscripton must accompany application*)

Online Banking Details (Please identify your payment): 03 0802 0098273 00

	Full
<input type="checkbox"/> Adult (any person 18years of age or over who is not eligile for any other category)	\$70
<input type="checkbox"/> Family (two or more persons living at the same address)	\$105
<input type="checkbox"/> Junior (under 18 years of age on 1st April in the current year)	\$35
<input type="checkbox"/> Senior (over 65 Years)	\$35
<input type="checkbox"/> Community Services Card Holder	\$35
<input type="checkbox"/> Student (any person studying full-time at a tertiary instition, must reapply annually)	\$35
<input type="checkbox"/> Corporate (members have voting rights of one member, but cannot take office)	\$210

Name:	Date of Birth(if Under 18yrs)	Signature

All CAS members receive CASMAG a monthly newsletter,

Do you have access to a telescope? What type and size? _____

I the undersigned declare that the information given herein is true.

Signature: _____ Date: _____

By signing this application the applicant agrees to comply with the Constitution and By-Laws of the Canterbury Astronomical Society Inc.

Date Approved: _____