

Astronomical Society of Southern Africa
Report of the Comet, Asteroid and Meteor Section for the year ending June 2024
Tim Cooper, Director

The following observations are reported for the full year ending 30 June 2024.

Comets

Kos Coronaios imaged Comets C/2020 V2 (ZTF), C/2023 H2 Lemmon, 62P/Tsuchinshan and 144P/Kushida. Comet 12P/Pons-Brooks made an appearance in early April, peaking at magnitude 4 and becoming visible to the naked eye from dark locations. Visual observations were made by Magda Streicher and Tim Cooper, and the comet was imaged by Kos Coronaios, Oleg Toumilovitch, Lafras Smit, Johan le Roux, and Wim Filmalter. A report of all observations will be published in MNASSA. Comet C/2023 A3 (Tsuchinshan-ATLAS) was observed visually by Magda Streicher and Tim Cooper and imaged by Kos Coronaios and Oleg Toumilovitch. This comet may reach naked eye brightness later in 2024.

Meteors

Meteor shower observations by Tim Cooper and Magda Streicher totalling 44.08 hours were conducted as follows:

Meteor shower	Tim Cooper hours	Magda Streicher hours
September upsilon Taurids	4.25	4.56
Orionids	4.78	
Andromedids	2.00	
Geminids	1.00	
Volantids	1.00	
eta Aquariids	15.48	11.01
Total	28.51	15.57

Specific details concerning two possible meteor shower outbursts deserve mention. Following a prediction of possible activity from the Andromedids on 2 December 2023, Tim Cooper contributed observations to the global campaign. No outburst was observed. Following predictions for possible enhanced activity, Tim Cooper and Magda Streicher conducted observations of the eta-Aquariids over several days centred on the maximum date around 6 May 2024. Observations indicate the apparition was normal and no enhanced activity occurred.

CAMS

The Cameras for Allsky Meteor Surveillance (CAMS) operates 16 cameras in two arrays, with 8 cameras at the Director's observatory (Station BR) and 8 cameras at Hartebeesthoek Radio Astronomy Observatory (Station HA). CAMS@SA captured and determined orbits for 8,140 meteors during the past year. Since inception in 2019, CAMS@SA has captured over 49,000 meteor orbits, and the contributions of the South African cameras are included in the recently published 'Atlas of Earth's Meteor Showers'.

Global Meteor Network

Paul Ludick continues to operate two cameras and Louw Ferreira and Andre Bruton operate one camera each as part of the GMN. Tim Cooper is serving on the global Project Team for the GMN Outreach Project, which aims to provide cameras to schools to promote STEM education and to create a network between schools and meteor scientists. Four cameras, kindly sponsored by a private individual and completed by Istrastream in Croatia were installed at Touwsrivier Primary School and Laingsburg High School with grateful assistance from Pierre de Villiers, ASSA Outreach Director, and Radim Stano, Project Lead, GMN Outreach Team. The cameras at Touwsrivier saw first light on 4 June 2024. The cameras at Laingsburg will be commissioned shortly.

Fireballs

41 fireballs were reported to the Director, all of which were analysed before adding to the Southern African Fireball Catalogue (SAFC). The Director cooperates closely with Robert Lunsford, who coordinates reports of fireballs reported to the International Meteor Organisation and the American Meteor Society, and his forwarding of events from Southern Africa for investigation is gratefully acknowledged. The Director also wishes to acknowledge the contribution of the GMN camera operators, who forwarded details of fireballs recorded by their cameras.

Asteroids

No scientific observations were made concerning asteroids in the past year. New observing opportunities will be investigated in the coming year.

All members who contributed observations are warmly thanked.

Tim Cooper
Director