

**IAU statement to be delivered at the 62<sup>nd</sup> COPUOS STSC session**  
**under Agenda Item 3 – General exchange of views**

Madam Chair, distinguished Delegates,

The International Astronomical Union presents its perspective that the Moon offers unique opportunities for major discoveries in astronomy. The Moon combines the advantages of the vacuum of space with the stability of a ground-based platform. Cheaper launches and the development of lunar infrastructure will enable scientific opportunities. If co-located, some other planned activities would be incompatible with the critical need for astronomical facilities to be free from noise, contamination and interference.

I call your attention to the Conference Room Paper on “The need for the designation and preservation of Sites of Special Scientific Interest on the Moon”, prepared by the Committee on Space Research, the International Academy of Astronautics, the International Astronomical Union, and the Moon Village Association.

The Conference Room Paper presents several examples of opportunities for astronomy:

1. Ultra-low frequency radio observations in the shielded zone on the far side of the Moon probe conditions in the early Universe and the magnetospheres of exoplanets. The rare large plains suitable for arrays of antennas would need to be designated for exclusive scientific use and protected against Unintended Electromagnetic Radiation.

2. A large-aperture single-mirror telescope or multi-telescope array would have sensitivity and image resolution substantially higher than that of the James Webb Space Telescope, extending the latter's entire scientific domain. To suppress the thermal noise that would swamp the faint cosmic signals in the infrared, the observatory must operate under very cold conditions, ideally placed in a permanently shadowed region on a crater floor. However, many of these craters are also attractive for extraction of frozen water ice, an activity incompatible with the low dust, low noise environment required for telescope operation.
3. Gravitational waves propagate through the Universe from the mergers of extremely dense objects like neutron stars and black holes. The Moon is so seismically quiet that gravitational wave detectors there would be sensitive to frequencies undetectable on Earth or from orbit. The seismic noise generated by nearby landings and launches or by heavy equipment for exploration or mining would be incompatible with these extremely sensitive observations.

Distinguished delegates: The ability to make use of the freedom of scientific investigation on the Moon, in particular, the unique advantages of the Moon as an astronomical observing platform, will depend on the development of internationally accepted methods to communicate, signal intentions between actors, foster coordination and safety, pay due regard to the interests of relevant users and stakeholders, and avoid contamination and harmful interference.

Designating unique sites for major international astronomical facilities to be developed in the longer term with mission lifetimes of years or even decades will require such methods. In the nearer term, prototype scientific facilities, sometimes from single nations, will be deployed closer to the sites of landings and other exploration activities. The scientific effectiveness of these prototypes would benefit from the development of a similar process of international agreement to minimize interfering actions to the degree practicable.

The IAU will work with other organizations with complementary interests to inform the STSC's thinking and planning on this complex issue.

We welcome the recent initiatives between COPUOS Member States on the usefulness of an international mechanism to consult on lunar activities, and in particular the Action Team on Lunar Activities Consultation (ATLAC) suggested by the Delegation of Romania, approved by COPUOS at its sixty seventh session and advanced at this session, as we firmly believe that international consultations can be instrumental in advancing much needed progress on this issue.

Madam Chair, Distinguished delegates and observers, thank you for your kind attention.