

IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)
NewSpace and Space Law (7)

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MEGACONSTELLATIONS OF SATELLITES AND THEIR IMPACT ON ASTRONOMY - A
POTENTIAL NEED FOR INTERNATIONAL REGULATION**Abstract**

The recent activity of designing and launching into low earth orbits (LEO) large constellations of satellites is posing a number of challenges in terms of regulation. Some of these challenges are already well known to space lawyers, such as the need to register large batches of satellites, and the necessity of avoiding any radio-electric interference between those networks and other space and terrestrial stations. However, a totally unexpected issue has also emerged, which poses one of the most significant regulatory challenges: the visual impact that huge numbers of satellites placed in LEO is having on the Earth's night sky. The present paper will first examine the nature of this problem, as described in public statements and reports recently issued by several astronomical institutions, and will then analyze it from the point of view of Space Law. The overall conclusion is that current national and international regulation is insufficient, and that new legal rules will be necessary in order to fully address this issue. Existing International Space Law does provide some basic principles that could inspire a future regulation, in particular those contained in Articles I, III, VI, and IX of the Outer Space Treaty. Moreover, the related precedents of the West Ford Experiment and the prohibition of obtrusive space advertising by the national laws of some states could also serve as a guidance for future regulation.