MANAGING TRAFFIC UP TO SPACE AND DOWN TO EARTH

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Traffic Management

requires:

- objective set of rules
- universally applicable
  - Yield or Give Way policy
  - traffic separation schemes
  - safety measures / emergency management
  - control
  - technical features onboard vehicles
  - depart procedure / destination approach

Is a delimitation necessary or useful?

COLREGS:
A Model for Space Traffic Management?

International Maritime Organization – COLREGS 1972
(*International Regulations for Preventing Collisions at Sea*)

- definition of the scope of application

  "*These Rules shall apply to all vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels.*" (COLREGS 1972 Part A, 1, (a))

- principle of **coherence**:

  "*Nothing in [COLREGS] shall interfere with the operation of special rules made by an appropriate [national] authority for roadsteads, harbours, rivers, lakes or inland waterways connected with the high seas and navigable by seagoing vessels. Such special rules shall conform as closely as possible to [COLREGS].*" (COLREGS 1972 Part A, 1, (b))

Limits of Geophysical and Functional Approaches

Functional Approach: 'Space Objects' and 'Space Activities' defined with reference to 'Outer Space'

➢ *Tautology?*

Geophysical Approach: Different regimes applicable according to the altitude

➢ *Incoherence?*

We need a mixed approach based on fully defined criteria and notions.

Space Activities

axiom: '**space activities**' are:

- operation of an object in earth orbit or beyond
- launching of an object in earth orbit or beyond
- maintenance of an object in earth orbit or beyond
- direct exploitation of an object in earth orbit or beyond

➢ space activities use air space (launch / re-entry)

➢ space activities are subject to a special regime (outer space law) which should be coherent with other applicable regimes (i.e. air law)

Conclusion

Delimitation between **air space** and **outer space** is not necessary for traffic management.

As long as an object is operated in an area where other objects are operated, common rules need to apply to ensure safety and smooth traffic:

➢air traffic area: air traffic rules

➢space traffic area: space traffic rules

➢taking into account the technical features of each object (*Don't ask a train to turn left…*)