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# First results on comparison of GEO and HEO object brightness

**Presentation of the Roscosmos delegation  
to the IADC WG1**

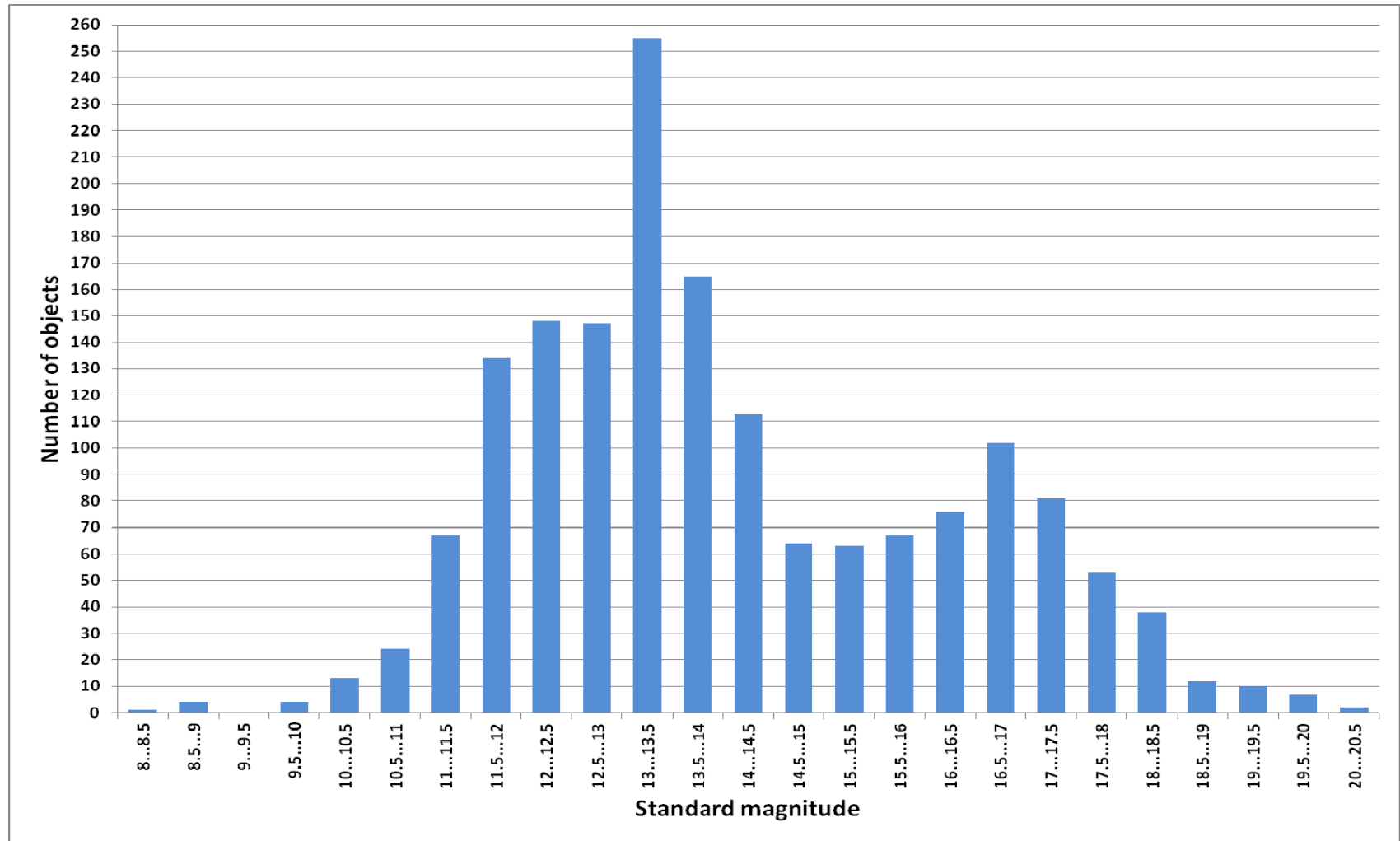
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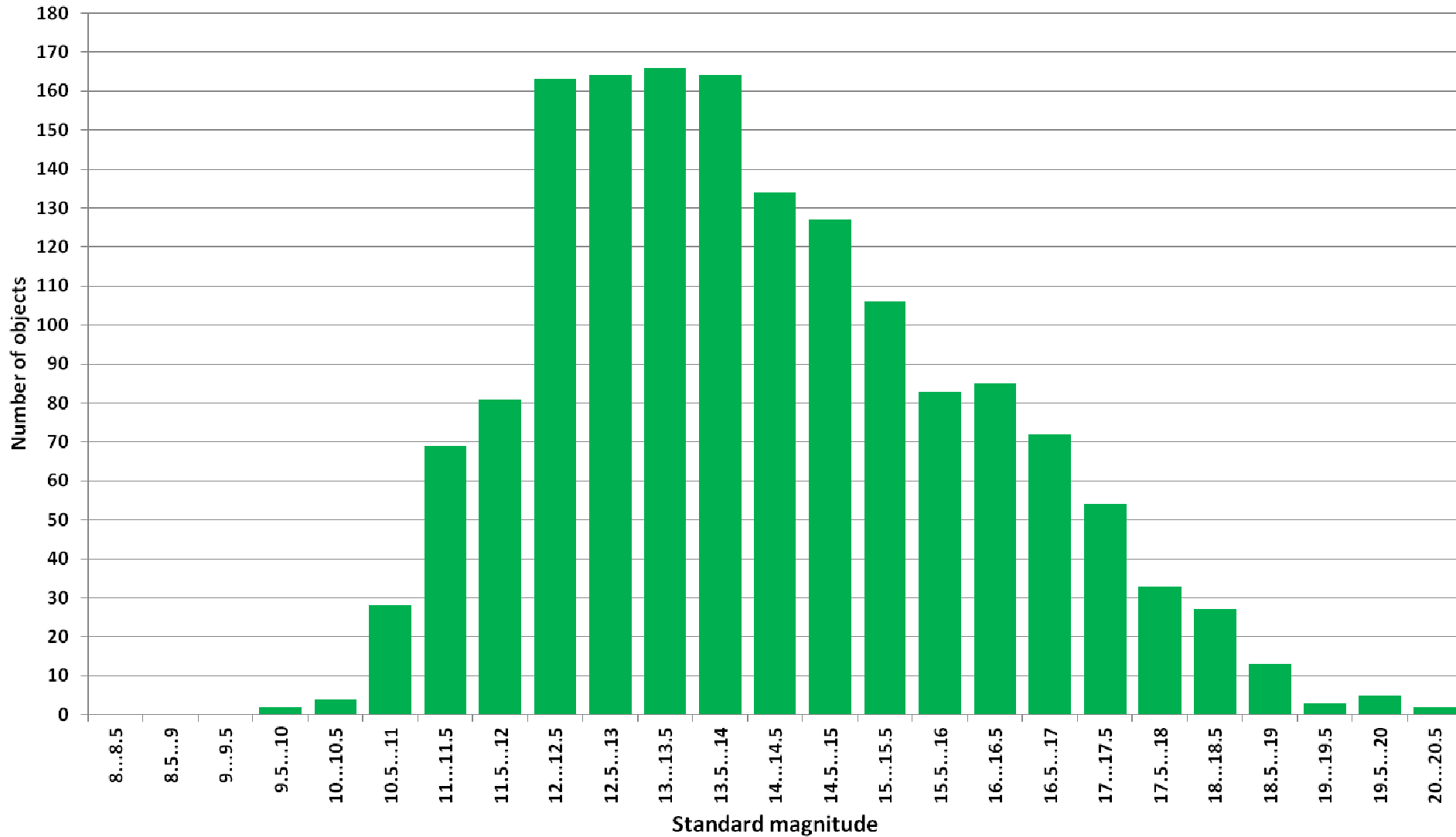
# HEO Observations by ISON

- Observations of HEO are obtained mostly as an additional output of regular GEO surveys
- Measurements are collected for 1585 HEO objects, including 270 ones for which data are not provided at SpaceTrack
- Data are not analyzed yet by an object type (spacecraft, upper stages, fragments) in a manner of GEO objects so only common data are presented
- Standard brightness (referring to 40000 km distance and zero phase angle) is calculated

# ISON Tracked GEO Objects Distribution by Standard Magnitude – 1704 objects

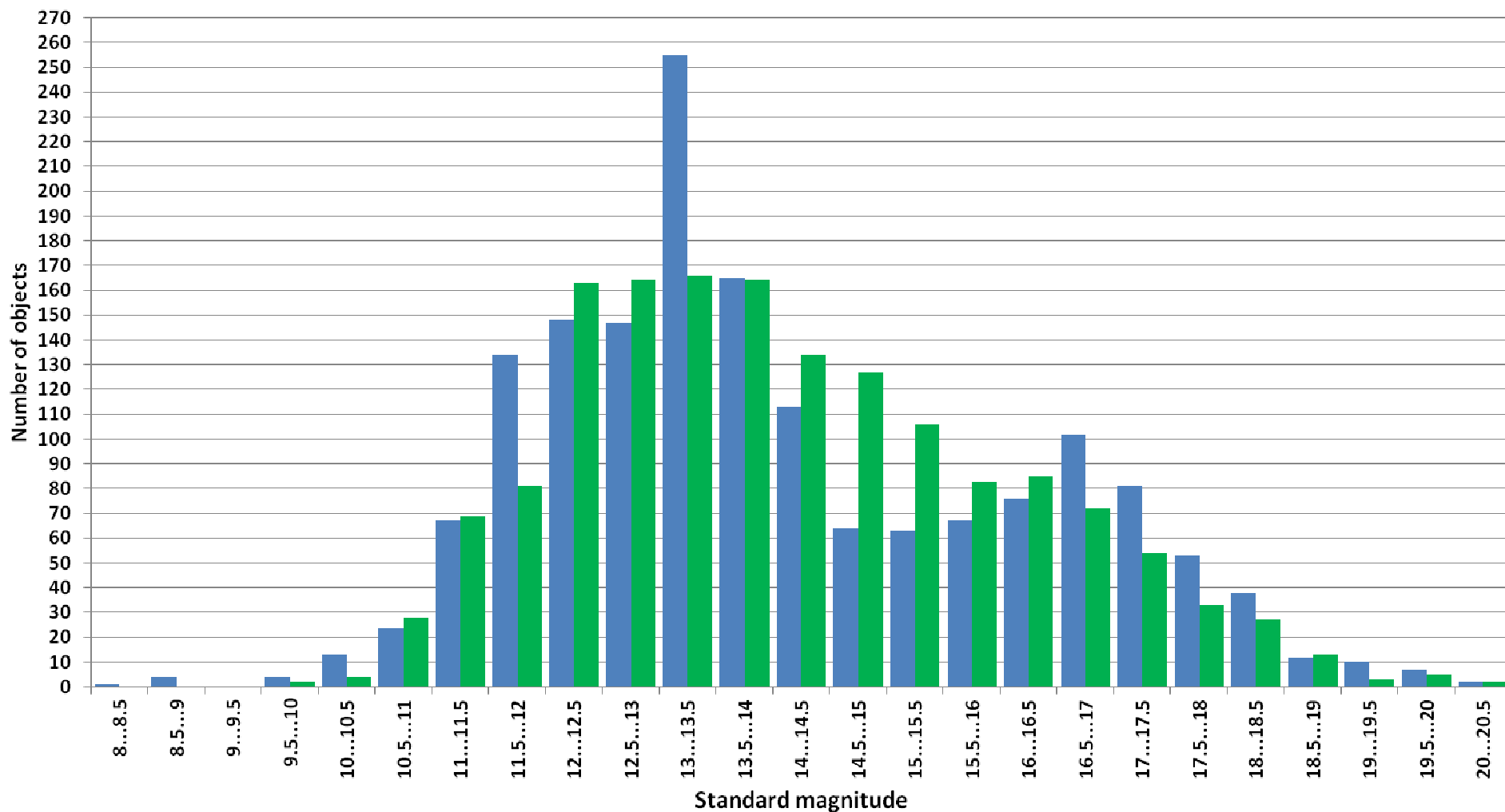


## Distribution of brightness of HEO objects tracking by ISON (1585 objects)



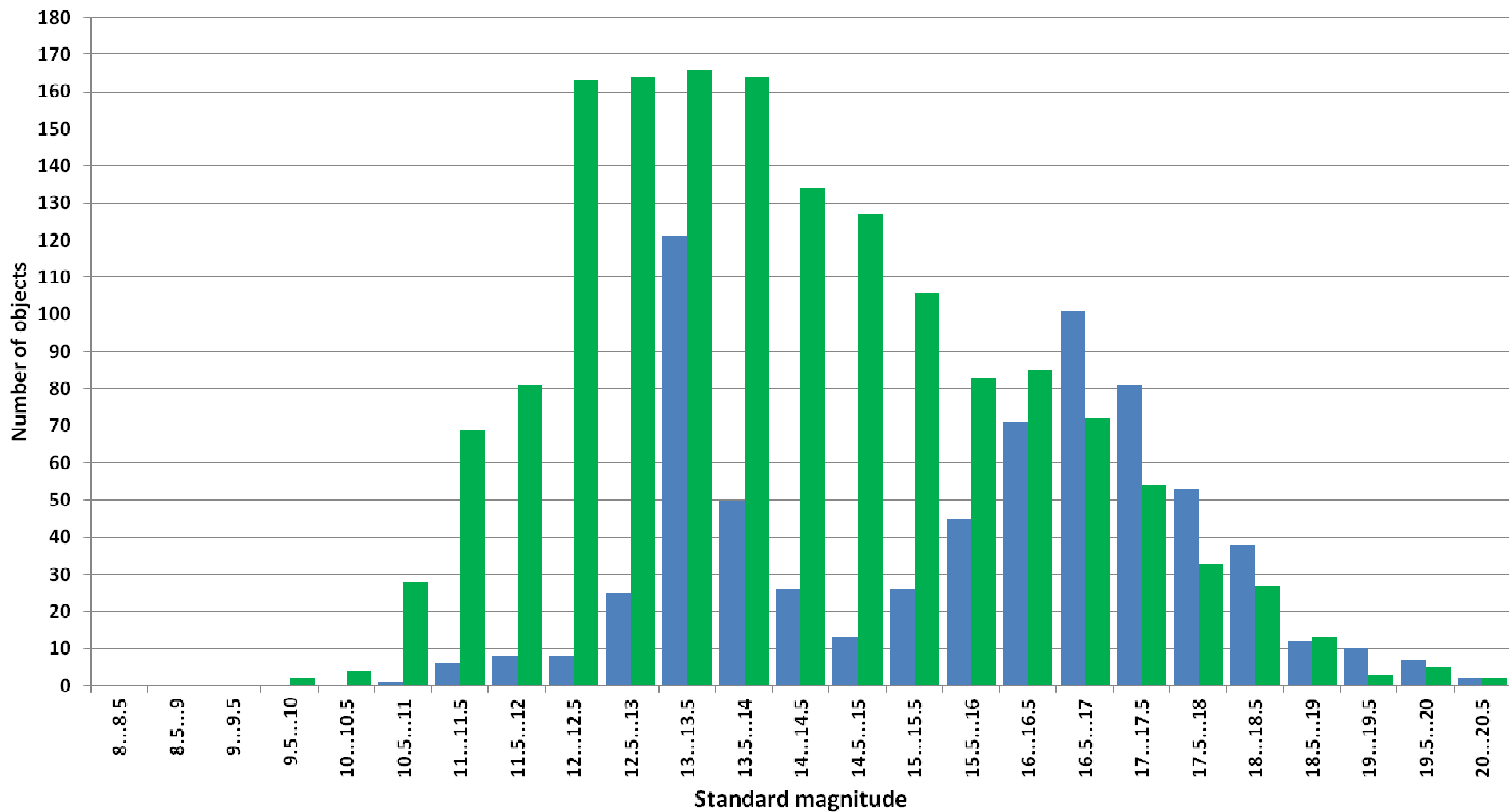
# Distribution of brightness of GEO (spacecraft, upper stages and fragments) and HEO objects tracking by ISON

■ GEO (1650 objects) ■ HEO (1585 objects)



## Distribution of brightness of GEO (upper stages and fragments only) and HEO objects tracking by ISON

■ GEO (704 objects) ■ HEO (1585 objects)



# Conclusions

Measurement information is collected for 1585 HEO objects in the ISON, including 270 ones without orbital data at SpaceTrack

First results of analysis of HEO objects brightness distribution are obtained

Standard brightness distribution for HEO objects tracking by ISON seems is different to the one for GEO objects. But it is not possible to make a definitive conclusion at this moment. The study is continuing.