DARK SKY OUTPOST: A CONCEEPT OF HIGH ALTITTUDE AEROSTATIC UNIVERSAL PLATFORM

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SUMMARY

The paper presents an idea of high altittude aerostatic platform for scientific and utilitary applications. Proposed Dark Sky Outpost (DSO) would serve as a place for near space applications like: testing of space equipment, astronomical observations in UV and IR bands, space rays observations. optical and infrasound observations of meteors, observations of high altittude meteorological fenomena (sprites, elfes, notcitlucent clouds, aurora), geophysical experiments, etc.
Such DSO would be also a good start platform for suborbital and LEO missions, for small lauch vehicles, due to high altittude. It also may serve as an topocentric pseudo-satelite, for Earth observation purposes in the optical and radio bands: application for national economy and military purposes, e.g. EAW.
In the paper a diffrent variant of the DSO were discussed in the range of alittudes 20..35 km.
To get an omnidirectional properties, lower sensitivity for wind directions, better stabilisation of position, a form of semirigid discoidal (ellipsoidal) has been considered. The dirigible would be stabilised by set of propellers driven by electric motors, or atmosheric ionic thrusters, partially feed by photovotaic cells covering the bull of the airship.
Details of the proposed solution will be presented in the main paper.