

ABSTRACT SUBMISSION –– SOUMISSION DE RESUME

**Topic No.: / Sujet n° :7or / ou**

**proposed topic / sujetproposé:Application of self-cleasing Nano technology on guano polluted Aids to Navigation**

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ABSTRACT / RESUME:

The number of birds is increasing due to the climate change, the improving of the environment on the earth and the increasing awareness of rare birds species conservation. Besides, islands provide rich and specific food and natural environment for various kinds of bird. Therefore, island’s diverse habitat and vegetation provides a perfect breeding ground for a lively and varied selection of birdlife. But it also bring the guano problem. The solar panels, lanterns, floating AtoN installed in the waters of various birds are covered by thick guano, which causes a serious impact on the solar cell, reduces the effectiveness of AtoN, and brings lots of problems to the maintenance of AtoN. In order to keep the harmonious development of human beings and nature, actively adapt to climate change, and ensure the effectiveness of AtoN, this paper analyzes the use of Nano-structured coating on solar panels, buoys and beacon lights.It use thickness of 1 ~ 3μm titanium dioxide coating with strong oxidbillity, which can be decomposed by ultraviolet light and effectively reduce the adhesion of guano. By this way, guano can be washed away by rain easily. Meanwhile, the TiO2 coating can effectively protect the colored coating, prevent the color coating from acidic substances, salt spray, acid and other pollutions and corrosion, which also improve the service life of the paint greatly.