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SPACE COOPERATION OR SPACE CONFLICT: A STRATEGIC NET ASSESSMENT FRAMEWORK

Abstract

Space cooperation and space conflict are two different evolutionary results of space dispute. Although international cooperation is becoming an increasingly important part of today's space programs, spacefaring nations never give up preparations for military battle, aiming to deal with conflicts in space. Today's researches lack a scientific framework integrating the approaches of quantitative and qualitative to forecast the result of space disputes in the near future. An original framework is set forth for assessing space dispute based on theories of international relations and net strategic assessments. Firstly the outcomes of space disputes is classified into four levels by quantitatively defining cooperative and conflicting elements: cooperation, small-scale conflict (diplomatic protest, warning tests, satellite maneuvering for surveillance, etc.), large-scale conflict (attacking satellites in space, etc.), and outbreak of war. Secondly, the reasons inducing space disputes are divided into interest factors and idea factors based on the existed researches at home and abroad by using the theories of international relations including rationalism and constructivism. National security strategy, scientific and technological capabilities, geopolitical position, space technologies and equipment and so on are categorized as interest factors, which affects national space power. Traditional culture, historical memory, ideology, defense strategy and so on are categorized as idea factors, which affect behavior and decision making. Thirdly, a two-layer framework is proposed. Staring from different factors above, the trajectories for circa 2030 are constructed from the future security environments as the first layer of the framework. On the second layer, the characteristics are extracted as independent variables describing the critical features of the trajectories and are decomposed into two dimensions: cooperation and conflict. Then the cooperative characteristics and conflicting characteristics are contrasted quantitatively to evaluate the performance with the definition of the outcomes of space disputes in the first step. Finally, the strength of this framework is then illustrated using a case study in Asia.