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INTRODUCTION

This is the final report on a study for the Canadian Government, Department of External Affairs, regarding the feasibility of a spacebased remote sensing system designed to determine the presence of weapons in space.

The Paxsat A System Concept is based on the supposition that a properly configured set of observations in space can determine the function of an unknown satellite to an acceptably high degree of confidence, such that it can contribute to the determination and control of the presence of weapons in space.

The present study extends earlier studies in this field [Refs. 1,2] and is intended to develop a data base in respect to the Paxsat concept from which the Canadian Government may assess other similar related concepts or, develop a Canadian negotiating position in respect to an international forum. The study thus addresses three principle questions:

- (a) Can space observations determine the role or function of an object in space?
- (b) Are there one or more political/international agreements or treaty contexts in which observations could or would be carried out?
- (c) Would the observational requirements and the political restraints of a governing treaty permit a viable Paxsat mission and design spacecraft?

The report discusses the concept and its implications under eight principal topics. Section 2.0 outlines the present distribution of assets in space, both civil and military, and considers the prospects for weapons in space.

Section 3.0 discusses the political considerations affecting an arms control agreement for outer space and suggests the limitations under which a Paxsat system might have to operate.