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PROPOSAL OF CREATION OF A PLANETARY DEFENSE OFFICE
IN BRAZIL BASED IN EXISTING CAPABILITIES

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Agenda

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- Recent initiatives in Brazil space activities
- General problems to implement a PD program
- Planetary Defense Office in Brazil
- Final considerations
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Objective

Which existing capabilities the Brazilian government could use, adapting the competencies if necessary, to be able to meet a Planetary Defense initiative?

- Brazil is a country of continental proportions, regional leader in space activities, and in which cosmic events have been observed in recent years, it has been observed, through research, that there is no mention or official participation of the country in initiatives for planetary defense (other than the discussion in the academic environment).
- In this sense, the present article aims to present a starting point define some of the essential capabilities so that, in case of a NEO event, Brazil has a defined structure with roles and responsibilities to better respond to this type of sidereal risk.

Introduction

- In January 2016, NASA reorganized its Near-Earth Object Observations Program and established a Planetary Defense Coordination Office (PDCO)
 - The PDCO coordinates efforts with the space agencies of other nations as a member of the multinational IAWN and SMPAG, under the endorsement of the UNCOPUOUS.
- The European space agency - European Space Agency (ESA), also has its office for coordination and activities related to planetary defense, which was established in 2018, the Planetary Defense Office (PDO), based in Esrin in Frascati, Italy.
- Brazil - represented by a group of amateur astronomers from the Observatory for Near Earth Asteroids Research (SONEAR), which is based in Oliveira, Minas Gerais, and the Brazilian Meteor Monitoring Network (BRAMON) that is an open and collaborative organization, maintain

Recent initiatives in Brazil space activities

- The Brazilian Space Program (PEB) started in the 1960's
- Brazilian Space Agency (AEB) was created in 1994
- Brazilian Space Program Development Committee (CDPEB) through Decree No. 9,279 of February 6, 2018
- National Space Activities Program (PNAE 2022-2031)

General Problems to implement a PD OFFICE

- Any planetary defense strategy requires that feasible actions be considered when an asteroid is discovered on a trajectory that risks impacting Earth
- Few countries have the capacity to dominate the entire space production cycle, such as the United States, China, Japan, India, Russia, and France.
- In Brazil:
 - Legislation
 - Technology
 - Funding
 - Strategy
 - human resources
 - Infrastructure
 - Policy and
 - governance

Planetary Defense Office in Brazil

- The first step was to assume the governmental interest in the theme and the commitment of the stakeholders identified with the program.
- The second step was to search existing structures in order to build a generic collaboration chart that could meet the requirements of a planetary defense system.
- The model adopted as a reference was NASA's PDCO.
- The structure will be under Brazilian Space Agency (AEB)

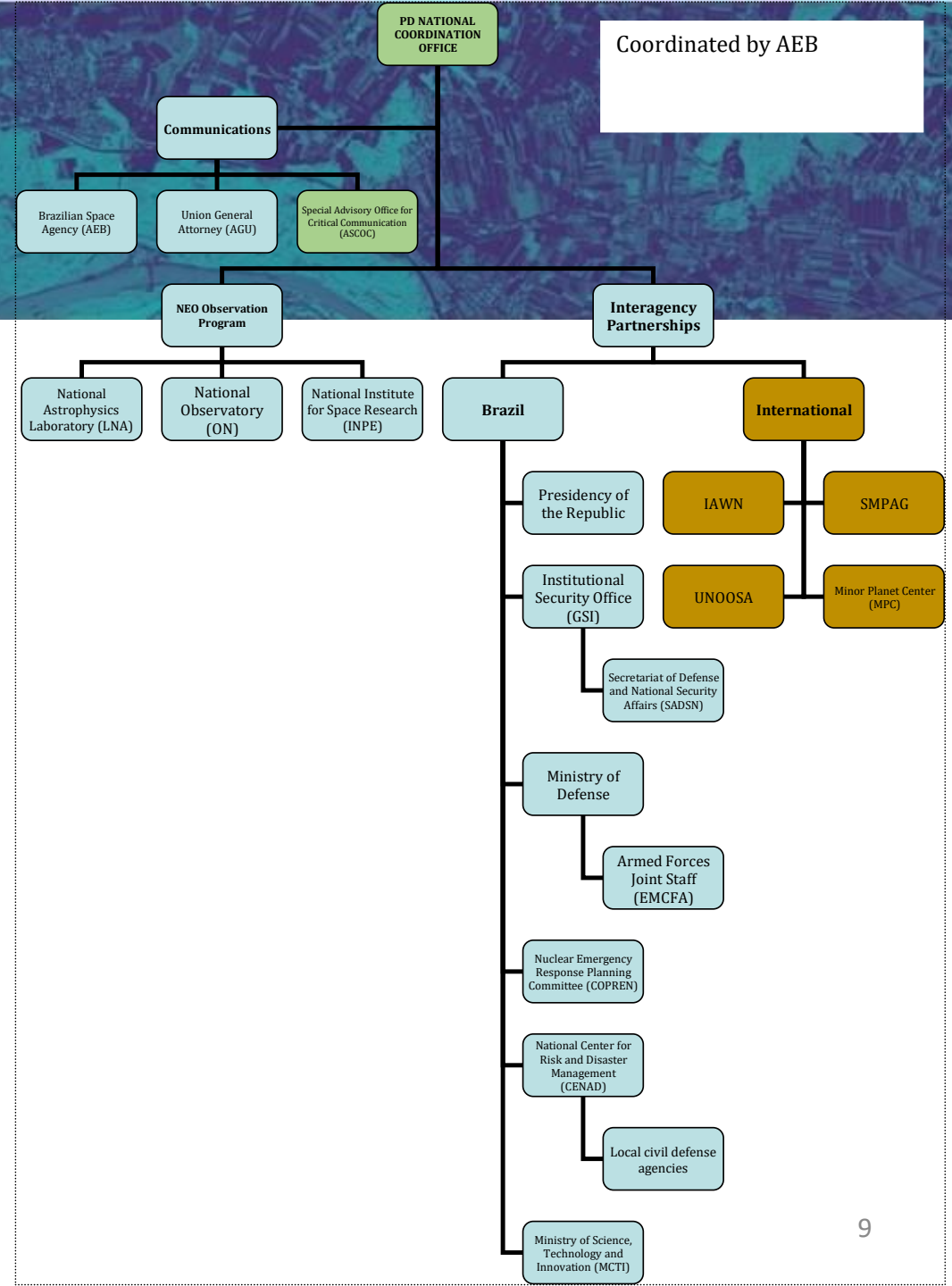
Planetary Defense Office in Brazil

Initial set of the main capabilities identified to compose a Planetary Defense initiative, according to the Brazilian government's description of its competencies:

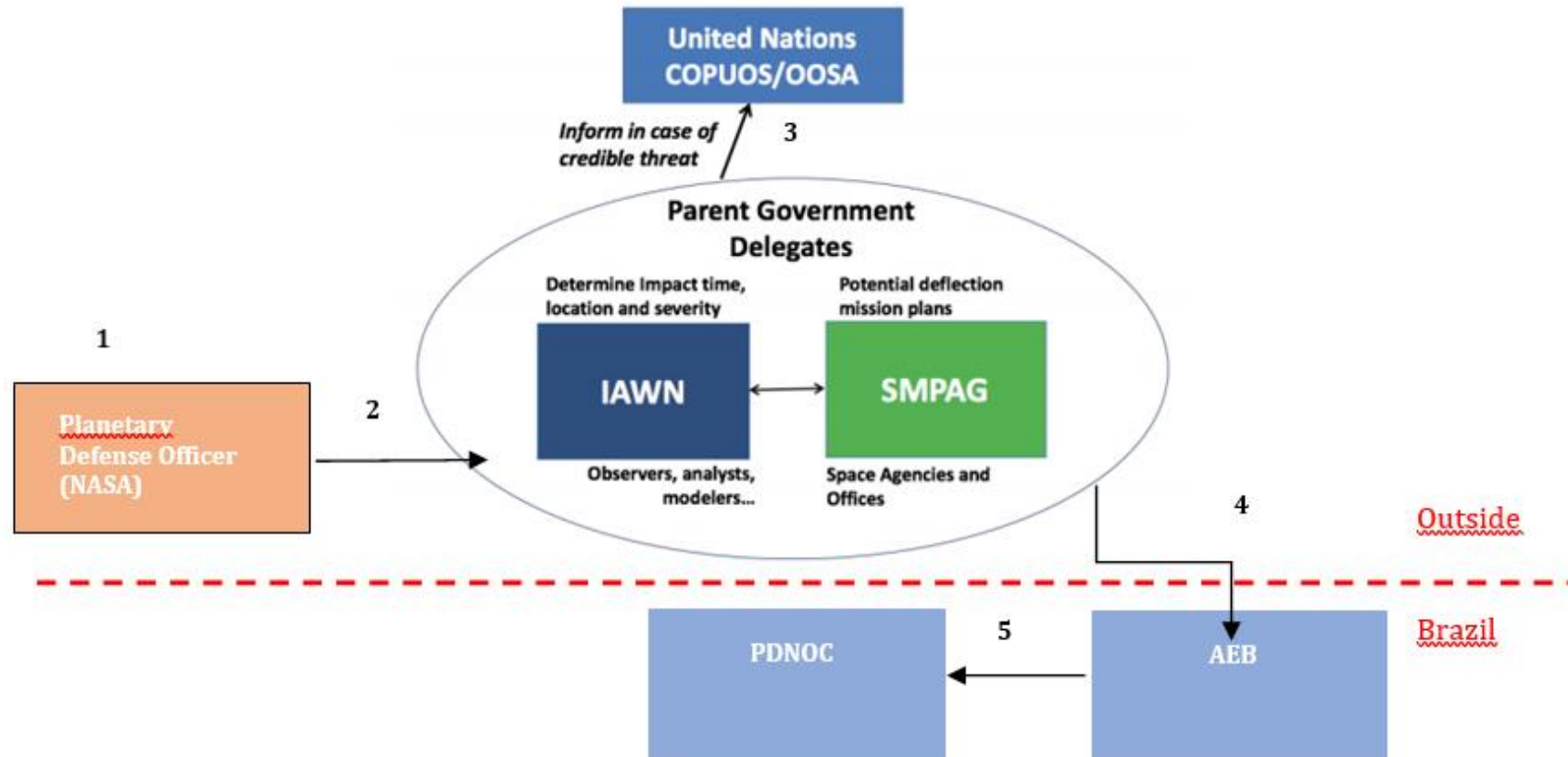
- Brazilian Space Agency (AEB)
- Union General Attorney (AGU)
- National Astrophysics Laboratory (LNA)
- National Observatory (ON)
- National Institute for Space Research (INPE)
- Presidency of the Republic
- Institutional Security Office (GSI)
- Secretariat of Defense and National Security Affairs (SADSN)
- Ministry of Defense
- Armed Forces Joint Staff (EMCFA)
- Nuclear Emergency Response Planning Committee (COPREN)
- National Center for Risk and Disaster Management (CENAD)
- Local civil defense agencies
- Ministry of Science, Technology and Innovation (MCTI)
- Planetary Defense Office National Coordination (PDONC)
- Special Advisory Office for Critical Communication

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In relation to the international institutions mentioned, which are outside the PDONC coordination, these make up a general predefined communication flow that is outside the scope of this work.



Planetary Defense Office in Brazil



Final considerations

- This initial proposal arose from interviews with experts from various areas who have an interest in the theme and who encounter difficulties in their respective segments to conduct initiatives on the PD in Brazil.

Need for technicality of several other stakeholders, specialists and representatives of specific areas of knowledge such as Law, International Law, International Relations, Public Security, Public Policies, among others, which would be fundamental for the elaboration of a feasible, detailed, realistic plan to structure a PDO and that, in fact, meets or directs the mechanisms already established by competent bodies in the response to disasters of any nature.

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