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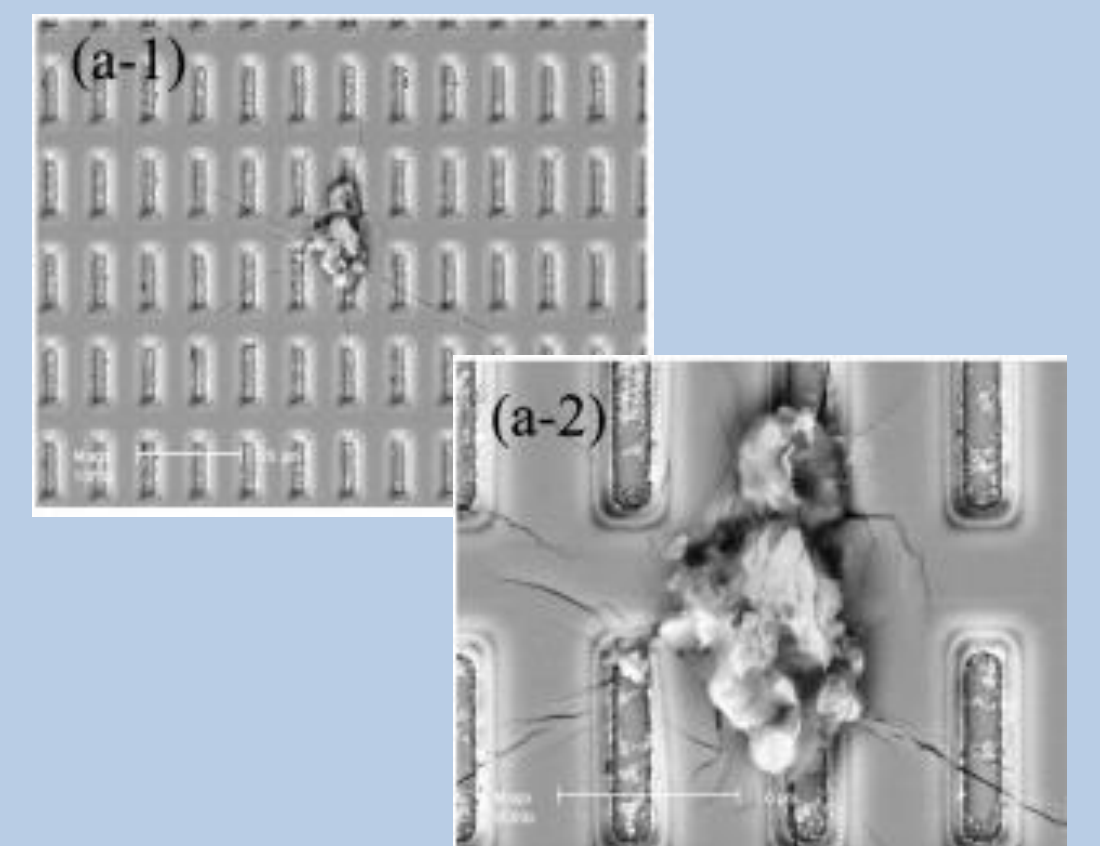
# Dynamic Double anomaly Detection through evolving clustering: Application to on-board space radiation faults

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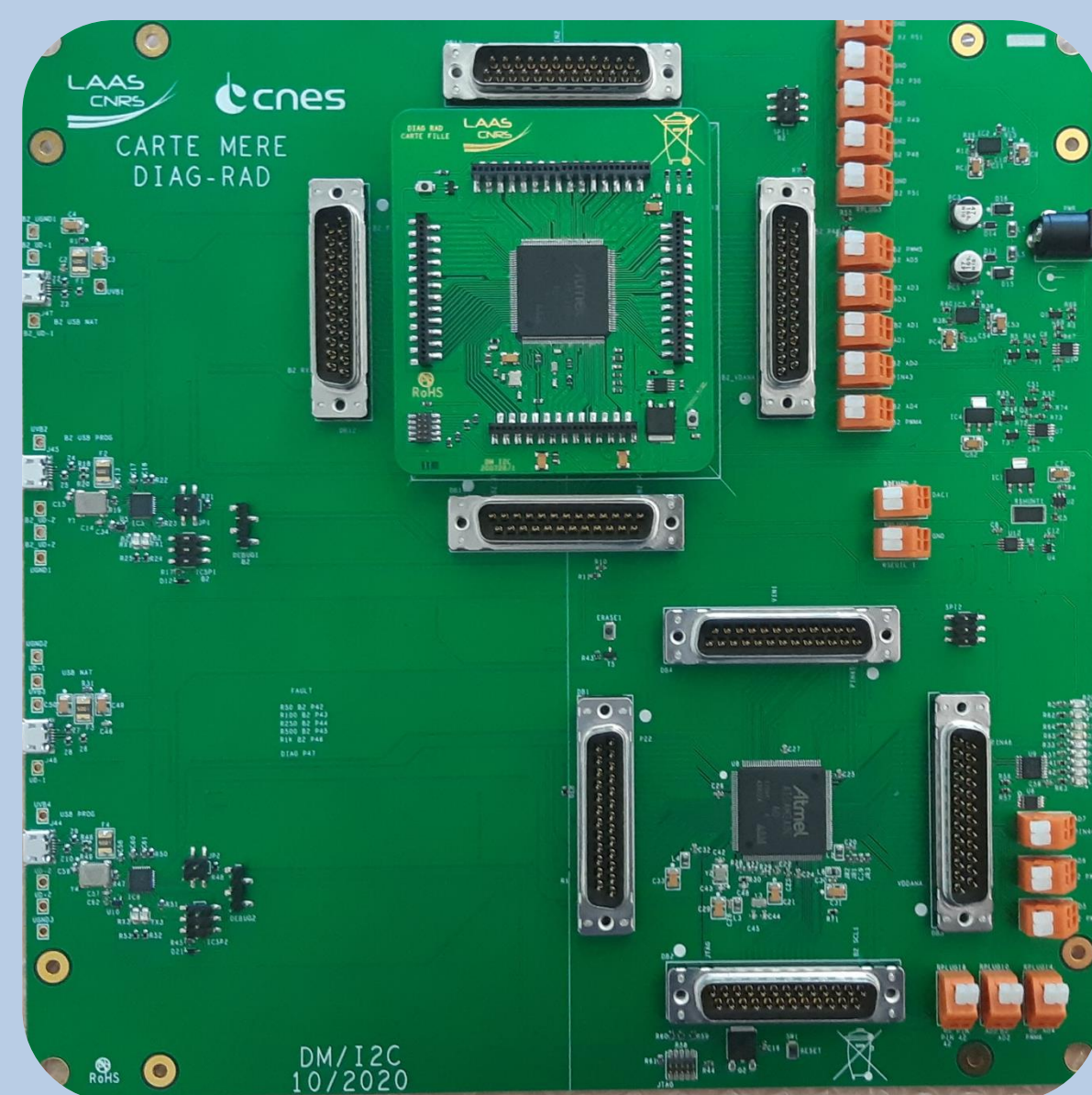
## Context

- Space radiation is a primary concern for space agency
- Today's out of limit detection is becoming obsolete
- Machine learning is investigated as a new anomaly detection method
- A dynamic method for embedded systems called **DyD<sup>2</sup>** is proposed

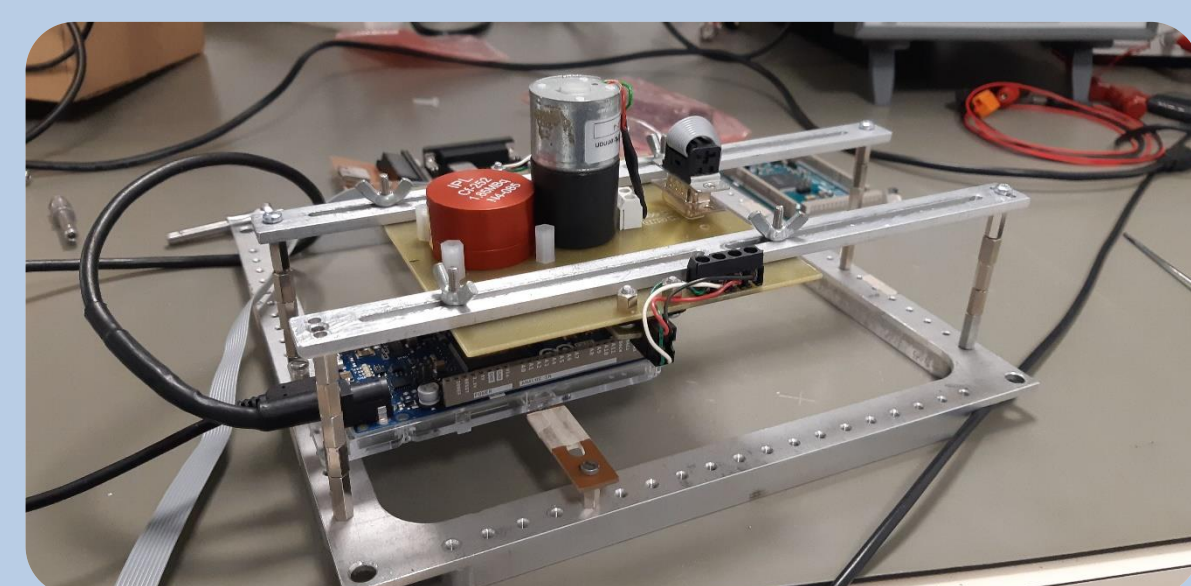
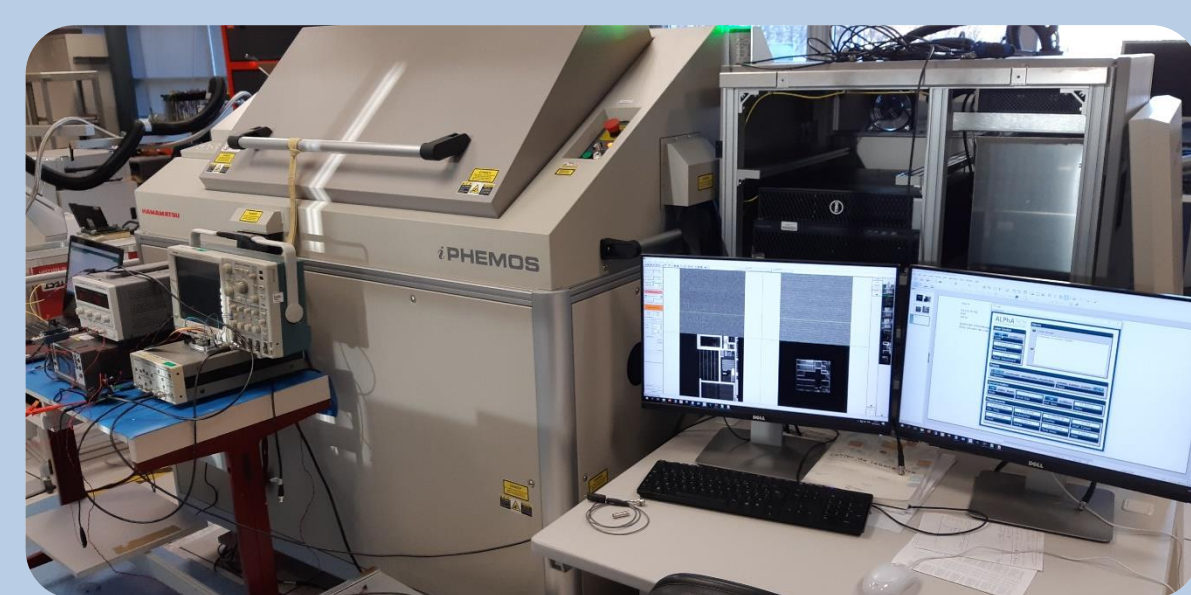


## CNES collaboration

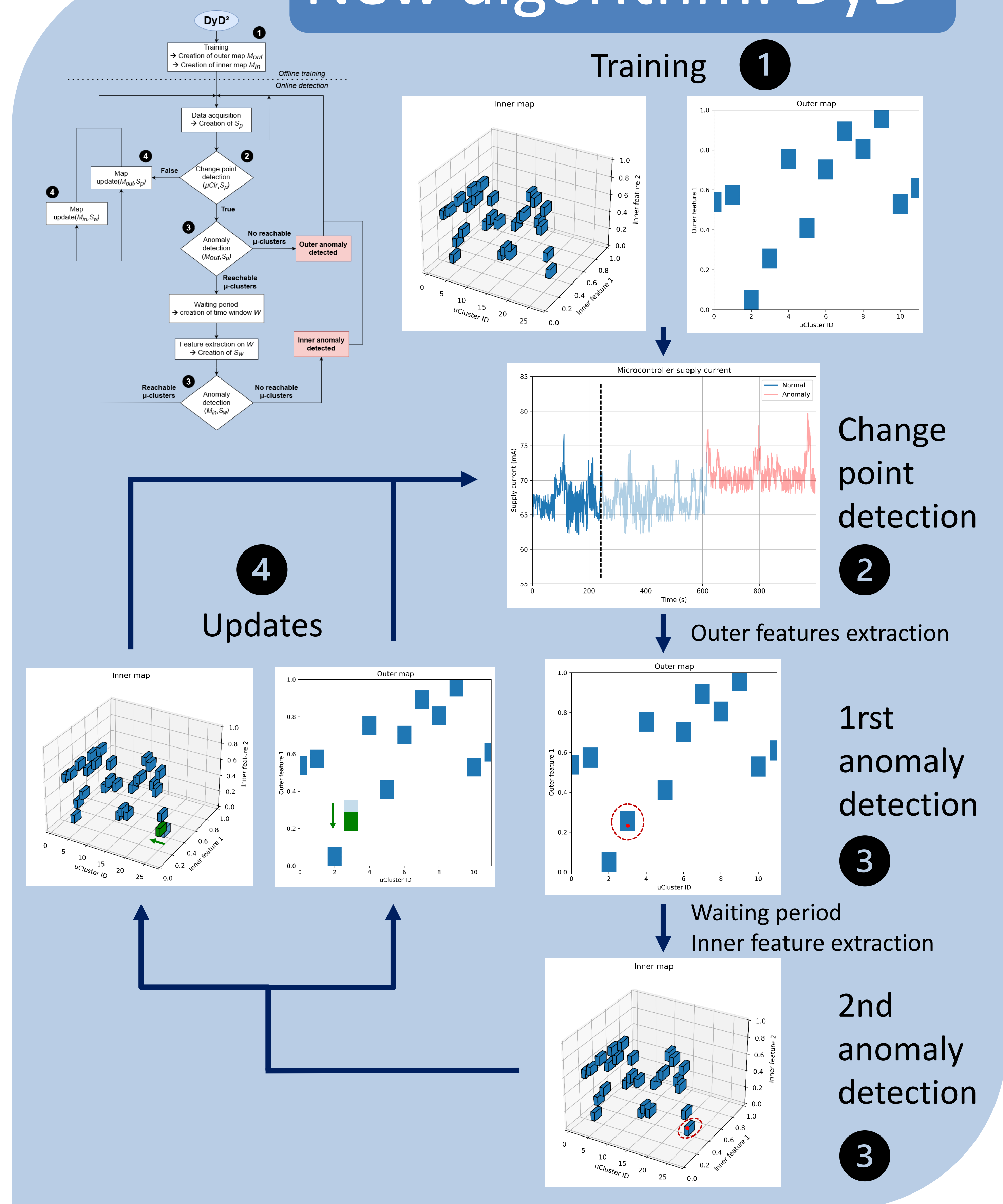
- Space case study based on ANGELS project



- Experimental testing with laser and heavy ion



## New algorithm: DyD<sup>2</sup>



## Results

- DyD<sup>2</sup> is showing same result as state-of-the-art algorithms
- DyD<sup>2</sup> is faster and takes less resources to perform on online data
- DyD<sup>2</sup> is adequate to equip modern satellite on space mission

