ICE SOUNCING is based on the fact that P-band radiation is capable of penetrating ice up to depths of a few kilometers. Thus, a spaceborne P-band sensor can provide a global 3D mapping of the whole Antarctica, with surface information on ice thickness, glacial topography and internal layers. It is worth noting that knowledge of these parameters is at the moment limited to a few areas and has been acquired by means of airborne or ground-based low frequency radar sensors. On the other hand, improvement of AAR (Azimuth Ambiguity Ratio) and about -40 dB of RAR (Range Ambiguity Ratio) over about 80 Km swath and repetitiveness are achieved by the satellites in an interleaved way and the original Doppler spectrum is reconstructed by the processing allowing to reach the original azimuth resolution.

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APPLICATIONS

Theice sounding technique is implemented on micro or nano platforms.

The SAR system on a single satellite has been successfully tested and experimentally validated in polar and subpolar regions.

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