Identifying ice properties and ice–ocean processing with ENVISAT SAR Imagery.

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Abstract

During the 2004 ice season in the Gulf of St. Lawrence and the Canadian Beaufort Sea ice property data were collected by helicopter–borne sensors and satellite–tracked ice beacons. Ice property data was collected with an electromagnetic induction, laser and video along helicopter flight paths over first–year land–fast ice and mobile pack ice. The data is used to validate algorithms to identify ice properties seen as ice signatures in SAR satellite imagery. Ice drift patterns derived from beacons trajectories and consecutive images, provided insight on ice ridging and lead formations whose features then could be inferred by ice signatures in SAR imagery and validated by helicopter–borne sensor data.