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HTS level sensor with integrated Cold electronics

Content :

Cryogen level measurement is important for the purpose of monitoring and control. Various level measurement schemes are available for this purpose like capacitance, differential pressure, resistive etc. In this paper 400 mm HTS based level sensor with integrated signal conditioning unit is proposed. The developed HTS level sensor weighs less than 1 kg and has comparatively much lower thermal mass with respect to capacitance type level sensor. The integrated cold electronics based signal conditioning unit is operational at cryogenic temperature. This unit measures the change in HTS resistance in terms of frequency change for the corresponding change in level. LabVIEW 11.0 software was used for data logging during calibration. The calibration was carried using liquid Nitrogen.

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