

Evaluation of temperature profile of the XRS onboard MUSES-C

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We present the thermal model of the XRS instrument onboard MUSES-C and its examination by thermal vacuum tests for the protomodel of the XRS. The XRS is designed to passively cool the charge-coupled devices below 230K with the radiator. We performed the thermal vacuum test of the protomodel itself in our laboratory. We also participated the system thermal vacuum test of MUSES-C and obtained the performance when boarded on the spacecraft. With those data, the temperature profile can be estimated during the sequence when spacecraft approaches to asteroid and the profile can help obtain the thermal properties of the asteroid as well.