

Blue Canyon Technologies (BCT) is building the spacecraft for the Radiometer Assessment using Vertically Aligned Nanotubes (RAVAN) project, which is led by the Johns Hopkins University Applied Physics Laboratory (JHU/APL), with partners L-1 Standards and Technology, Inc. and Draper Laboratory, and funded by NASA's Earth Science Technology Office.

The objective of the RAVAN project is to demonstrate a radiometer that is compact, low-cost, and low-uncertainty. The radiometer uses a gallium fixed-point black body as a built-in calibration source and a vertically aligned carbon nanotube (VACNT) absorber. VACNTs are the blackest known substance. Neither the VACNT nor gallium black body has ever been used in an orbiting scientific instrument. Successful demonstration will pave the way for a constellation Earth radiation budget mission that can provide valuable measurements needed to significantly advance our understanding of ongoing and future climate change.

BCT will integrate the RAVAN payload with the XB1 Spacecraft Bus and perform environmental testing of the complete spacecraft. BCT will also provide launch integration services and operate the spacecraft from its new Mission Operations Center. BCT's spacecraft, the XB1, is a high-performance CubeSat that includes an ultra-precise attitude control system that allows for accurate knowledge and fine-pointing of the satellite payload.

Our experimental radio license request is for a command uplink and data downlink to the RAVAN CubeSat.