

Thermopile pyranometers exhibit IR radiative losses that affect global and diffuse shortwave measurements made with first class thermopile based instruments. Pyrgeometers can be used to measure the sky temperature and are used to calculate the pyranometer's IR radiative losses. Few solar monitoring sites are equipped with pyrgeometers necessary to account for the IR radiative losses associated with the pyranometers. High quality data from the Solar Radiation Research Laboratory (SRRL) at the National Renewable Energy Laboratory are used to test and further develop a model for the IR radiative losses without the use of pyrgeometer data. The various methods for obtaining IR radiative loss values are compared and contrasted using the SRRL data. A simple scaling method is proposed and tested to adjust the non-pyrgeometer based correlation models to sites with different sky temperature characteristics.