Observations of the millimeter-wave continuum emission from Comet 67P/Churyumov-Gerasimenko were obtained during the months near its August 2015 perihelion by the Microwave Instrument for the Rosetta Orbiter (MIRO). The continuum measurements show an excess of emission above dayside of the comet nucleus, which we attribute to emission from large dust particles in the coma of the comet. Maps of the emission permit estimation of a number of key parameters, including rate of mass ejection of particles, size distribution of particles and largest particle size.

The excess MIRO emission extends many beam widths off the dayside limb and is attributed to thermal emission from large (mm-scale) dust particles. Maps show no detected emission on the night side of the nucleus, suggesting that production of these large dust particles is confined to the sunlit portions of the nucleus. Typical antenna temperatures observed at a distance of 4km from the center of the nucleus are approximately 1K, which corresponds to a dust column density of approximately 0.1 kg m^{-2}. Dust emission was detected in both the MIRO channels with a typical relative brightness of the 0.53 mm emission to the 1.59 mm emission of 1.2. We find that this result can be made consistent with powerlaw particle size distributions, $n(a) \propto a^{-q}$, for values of $q>3$ so long as the largest particle size in the distribution is greater than a few centimeters. The radial decrease in millimeter-wave dust brightness in the coma is consistent with models in which particles are accelerated by the drag force of outflowing gas following the radial gas velocity profile derived from analysis of the MIRO spectral line profiles. In this paper, we present new analysis and maps of the dust emission and describe our progress in modeling the observations.