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Erratum: Multi-wavelength, spatially resolved modelling of HD 48682's debris disc

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This is an erratum to the paper 'Multi-wavelength, spatially resolved modelling of HD 48682's debris disc' that was published in MNRAS, 497, 1098–1109 (2020). In the original version of the paper, the discussion in Section 3.4 on the observation and data reduction for the Sub-Millimeter Array (SMA) data corresponding to HD 48682 was incompletely described. Here, we present a more complete discussion of the SMA observations, their reduction and calibration, and a table summarising the archival SMA data used in this work.

1 OBSERVATION AND DATA REDUCTION

1.1 SMA

The SMA[1] observations listed in Table 1 were retrieved from the data archive. The observations on January 28 of 2014 were taken using the application specific integrated circuits (ASIC) correlator, while the other observations were taken with both the ASIC correlator and the SMA Wideband Astronomical ROACH2 Machine (SWARM) correlator activated.

The data were manually reduced following the standard data calibration strategy of SMA (Dr. Hau-Yu Liu, private communication). The application of $T_{\rm sys}$ information and the absolute flux, passband, and gain calibrations were carried out using the MIR IDL software package (Qi 2003). The absolute flux scalings were derived by comparing the visibility amplitudes of the gain calibrators with those of the absolute flux calibrators (i.e. Uranus and Callisto). We nominally quote the ∼15 per cent typical absolute flux calibration error of SMA.

After calibration, the zeroth-order fitting of continuum levels and the joint weighted imaging of all continuum data were performed using the Miriad software package (Sault, Teuben & Wright 1995). We performed the zeroth-order multi-frequency synthesis (mfs) imaging combing all available calibrated data. The final continuum image was produced using Natural weighting and was additionally tappered by a two dimensional circular Gaussian profile which has 2.″5 full width at half maximum. The achieved synthesized beam size and root-mean-square (RMS) noise level are $\theta_{\rm maj} \times \theta_{\rm min} = 4.''3 \times 4.''0$ (P.A. $= 27^{\circ}$) and 0.2 mJy beam, respectively.

Table 1. Retrieved archival SMA observations towards HD 48682 (56 Aur).

Date (UTC)	Available antennae	Correlator (GHz)	Frequency ranges	*uv* range ($k\lambda$)	Flux calibrator	Passband calibrator
2014Jan28	5	ASIC	217.5–221.5; 229.5–233.5	8–54	Uranus	3c279
2015Oct28	7	ASIC+SWARM	216.8–218.8; 228.8–232.8; 232.7–234.3; 235.4–237.0; 212.7–214.3; 215.3–217.0	6–56	Uranus	3C 454.3
2015Dec03	8	ASIC+SWARM	217.5–221.5; 229.5–233.5; 233.3–235.0; 236.0–237.6; 213.3–215.0; 216.0–217.6	6–54	Callisto	3C 279
2015Dec07	8	ASIC+SWARM	216.0–220.0; 227.9–231.9; 231.8–233.5; 234.4–236.1; 211.8–213.5; 214.4–216.1	6–54	Callisto	Callisto
2016Jan26	7	ASIC+SWARM	227.5–231.5; 239.5–243.5; 223.4–225.0; 226.0–227.7; 243.4–245.1; 246.0–247.7	6–58	Callisto	3C 273
2016Feb02	6	ASIC+SWARM	227.5–231.5; 239.5–243.5; 223.4–225.0; 226.0–227.7; 243.4–245.1; 246.0–247.7	8–58	Callisto	3C 273

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