



## Update on the SBNAF Infrared Database

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One of the goals of the Small Bodies: Near and Far (SBNAF) H2020 project was to create an easy-to-use database for thermal infrared observations of small bodies. We collected published thermal IR measurements for our selected samples of Solar System targets including data from large missions (e.g. catalogues based on Akari, IRAS and WISE observations) and also data from smaller scale and individual reductions (e.g. the Herschel Space Observatory measurements of near-Earth and main belt asteroids). The primary goal of this database is to help scientists working in the field of modeling the thermal emission of small bodies. However, the database has the option to include more data of Solar System small bodies which have been observed at thermal IR wavelengths from space or with ground-based instruments. The database is online and accessible since March 2019, see the details in Szakáts et al. (2020).

Our database was used, e.g. to help determine the shape and spin properties of (208) Lacrimosa asteroid in the Koronis family, (Vokrouhlický et al., 2021), to model the thermophysical state of two Hilda asteroids (1162) Larissa and (1911) Schubart, (Chavez et al., 2021) and to model the thermal emission of large main belt asteroids (Ali-Lagoa et al., 2020).

In a recent update we added 324 new flux densities for 23 resonant trans-Neptunian and scattered disk objects to the database from Farkas-Takács et al. 2020, and in total we have now 170461 records. For the currently available data, its sources and the distribution of data from observatories and missions see Table 1.

Mission	JPL code	instrument	filters	observing mode	$N_{obs}$
AKARI	500@399	IRC-NIR	N4	IRC02	1
		IRC-MIR-S	S7, S9W, S11	survey, IRC02, IRC11	6955
		IRC-MIR-L	L15, L18W, L24	survey, IRC02, IRC51	13824
HSO	500@-486	PACS	blue,green,red	chop-nod, scan map	2333
MSX	500@399		MSX_A,MSX_C,MSX_D,MSX_E	survey	901
IRAS	500@399		IRAS12,IRAS25,IRAS60,IRAS100	survey	25064
WISE	500@-163		W3,W4	survey	121383

Table 1. List of observatories/missions, observatory codes, instruments, filters, possible observing modes, and the number of measurements with a specific instrument, in the present version of the Infrared Database. Except for WISE, there are no available positions for the low-Earth orbit missions, so they are referred to as geocentric (JPL code '500@399')

In an upcoming update we are planning to extend the database with WISE W2 data, Uranus and Neptune satellite data, with flux densities from Herschel serendipitous asteroid observations, and disk-integrated thermal data of the Moon (Müller et al., 2021).

The WISE W2 data will bring shorter wavelength flux densities to the database for selected asteroids. During the processing special attention will be given to those small bodies, mainly NEAs, for which the reflected light can cause discrepancies when calculating the colour correction factor. A proper warning will be given in the public database for such objects after the update.

With the Herschel serendipitous asteroid observations we will expand the number of flux densities by around 600 records.