



Publication notification

including metadata

(please try to fill in as much as possible, even if not complete)

QUAST

Publication:

Title: Local correlations necessitate waterfalls as a connection between quasiparticle band and developing Hubbard bands

Journal Reference (URL or DOI): <https://doi.org/10.1038/s41467-024-55465-7>

arXiv Reference:

Contact for data requests:

Name: Karsten Held

Institution: TU Wien

E-Mail: held@ifp.tuwien.ac.at

Academic position / Role in data storage: Supervisor

Contact for data requests:

Name:

Institution:

E-Mail:

Academic position / Role in data storage:

Type of data produced: (Please check the corresponding box)

☐ QUAST-funded authors were not directly involved in creating or storing data.

☐ Work is purely analytic. Figures are visualizations of analytic expressions given in the paper.

☐ For original data, please refer to the cited publications.

☒ All data and code shown in the paper are available in [provide link] <https://doi.org/10.48436/zyqxm-62108>

☐ Data is available on reasonable request [fill out the missing information below]

☐ Other [please provide an alternative description below]

Dataset 1: (Collection of data published/archived together)

Short description of data:

The dataset was created using our own and publicly available codes w2dynamics for DMFT calculations, ana_cont for analytic continuation, and DGAPy for DGA calculations. For each figure there is a corresponding folder. Data files are of type hk, hdf5, npz, and txt, the data requires python (version 3.10.13, numpy version 1.26.0) with h5py (version 3.10.0).

Origin of data (institution):

TU Wien

(3rd party) Software used:

☒ additional information included as README with data

Data availability:

☒ published at (DOI)

<https://doi.org/10.48436/zyqxm-62108>

☐ on reasonable request, to corresponding author. Data is archived:

☐ according to local policy at institution (as provided).

☐ other (Please provide details: location, accessible by, ...)

☐ data included in publication or as supplemental online material at the publishers website

Source availability: (own software or scripts, used to generate/process data)

☒ published at (link)

various see below

☐ archived/published with data

☐ archived according to local policy at institution (as provided)

☐ other (Please provide details: location, accessible by, ...)

w2dynamics: <https://github.com/w2dynamics/w2dynamics>
ana_cont: https://github.com/josefkaufmann/ana_cont
DGAPy: <https://github.com/PaulWorm/DGAPy>

Dataset 2: (Collection of data published/archived together)

Short description of data:

Origin of data (institution):

(3rd party) Software used:

☐ additional information included as README with data

Data availability:

☐ published at (DOI)

☐ on reasonable request, to corresponding author. Data is archived:

☐ according to local policy at institution (as provided).

☐ other (Please provide details: location, accessible by, ...)

☐ data included in publication or as supplemental online material at the publishers website

Source availability: (own software or scripts, used to generate/process data)

☐ published at (link)

☐ archived/published with data

☐ archived according to local policy at institution (as provided)

☐ other (Please provide details: location, accessible by, ...)