DATASET: Dynamic Modulation of Long-Range Photon-Magnon Coupling
==========

This dataset contains the experimental and simulated data underlying the
figures of the paper:

  Alban Joseph, Mawgan A. Smith, Martin P. Weides, and Rair Macedo,
  "Dynamic Modulation of Long-Range Photon-Magnon Coupling"
  Communications Physics

Contact:
Alban Joseph (a.joseph.2@research.gla.ac.uk)
Rair Macedo (rair.macedo@glasgow.ac.uk)

OVERVIEW OF FIGURES AND WHERE THEIR DATA LIVES

Figure 1 - schematic of the experimental setup. No underlying data
(diagram only); not included in this dataset.

Figure 2 - "Frequency spectrum of the remote coupling system showing two
distinct regimes." (a,b) experimental VNA data; (c,d) theory.
  -> Data: Figure2/

Figure 3 - "Time-domain response of the remote coupling system." (a,b)
experimental ringdown data; (c,d) theory.
  -> Data: Figure3/

Supplementary Figure S4 - "Spatial mode profile of the transmission line
auxiliary mode."
  -> Data: Calibration/data/combined_phase{0,90,180,270,360}.h5

Supplementary Figure S6 - "Estimation of the magnon-transmission line
coupling strength using a larger YIG sphere."
  -> Data: Calibration/data/TCCU8R_3D_angle_current.h5

Supplementary Figure S7 - "Evidence for discrete auxiliary-mode
mediation."
  -> Data: SupplementaryFigure_AuxiliaryModeMediation/

Supplementary Figure S9 - "Frequency and time-domain response of the
two-bus-mode remote coupling system." Simulation only.
  -> Data: SupplementaryFigure_TwoBusMode/

Calibration data (Supplementary Figures S2, S3, S5; supports SI
methods/calibration text).
  -> Data: Calibration/

```
------------------------------------------------------------------
DIRECTORY STRUCTURE
------------------------------------------------------------------

README.txt

Figure2/
  data/T3Q2Z3_3D_angle_current2.h5     - experimental VNA data,
panels (a,b)
  data/theory_frequency_response.h5    - theory data, panels (c,d)
  README.txt

Figure3/
  data/4d_phase_remoteRectangle_500um_phase0097.5_dataOneFR.h5   -
panel (a)
  data/4d_phase_remoteRectangle_500um_phase0202.5_dataOneFR.h5   -
panel (b)
  data/4d_phase_remoteRectangle_noSample_dataOneFR_fine.h5       -
empty-cavity reference
  data/theory_time_domain.h5           - theory data, panels (c,d)
  README.txt

SupplementaryFigure_AuxiliaryModeMediation/ (Figure S7)
  data/T3S4HM_3D_angle_current.h5      - panel (a)
  data/T4P3YO_3D_angle_current.h5      - panel (b)
  README.txt

SupplementaryFigure_TwoBusMode/ (Figure S9)
  data/theory_two_bus_mode.h5          - theory data, all four
panels
  README.txt

Calibration/ (Figures S2, S3, S4, S5, S6)
  data/T2SOSL_2D_angle.h5                    - S3
  data/T2S3OH_2D_angle.h5                    - S2
  data/T2W07E_2D_angle.h5                    - S3
  data/T2S4DY_3D_angle_current.h5            - S5
  data/combined_phase{0,90,180,270,360}.h5  - S4
  data/TCCU8R_3D_angle_current.h5            - S6
  data/global_max_amplitude.txt              - normalisation constant
  README.txt
```