Dataset of accelerated run-to-failure test of rolling element bearings – PART 2

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Please note: Due to Mendeley Data's policy of limiting upload dimensions to 10 GB, this dataset has been split into two parts. Please search for part 1.

The dataset consists of accelerometer signals collected during an extensive experimental campaign aimed at studying the vibratory behavior of ball bearings by means of accelerated run-to-failure testing, under stationary condition. The data was collected using a specifically designed test rig. Data was sampled at 5-minute intervals for a time length of 5 seconds, with a sampling frequency of 25.6 kHz. The tested bearing, model 1205 ETN 9, is a double-row, self-aligning ball bearing. Testing conditions are shown in Tab. 1.

Test	Load (kN)	Shaft Speed (Hz)
E4	3	40
E5	4.7	40
E6	5	40

Table 1 – Testing conditions

Data description

The provided dataset includes three folders, each of which contains data for a single test. The folders are named as follows:

- E4
- E5
- E6

Files are in .mat format. Each file consists of two variables:

- **y**: the acceleration signal, in g;
- **Fs** : the sampling frequency, in Hz.

Reference paper

Please refer to the following article: *Gabrielli, A., Battarra, M., Mucchi, E., Dalpiaz, G., Physics-based prognostics of rolling-element bearings: the Equivalent Damaged Volume algorithm, Mechanical Systems and Signal Processing, 2024.*