Read me file: implementation of "A novel hybrid and publicly available model for spur gear vibrations based on an efficient dynamic model"

The codes implement the study:

Matania, O., Bachar, L., Roee Cohen, & Bortman, J. "A novel hybrid and publicly available model for spur gear vibrations based on an efficient dynamic model" arXiv:2410.05073 (2024). https://doi.org/10.48550/arXiv.2410.05073

A novel hybrid and publicly available model for spur gear vibrations based on an efficient dynamic model

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https://doi.org/10.48550/arXiv.2410.05073

The code for the library is located in the "Spur Gear Dynamic Model – Library" directory. To start using this library, you should refer to the examples in the "Main of Selected Examples" directory. Each main file implements a different example of generating simulated gear vibration data. Some of these examples utilize functions from the "Gear Signal Processing – Library" for additional processing. Be sure to update the file paths, such as in line 9 of main_1, to reflect the location where you have stored these libraries.

```
1  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
2  %%%%%%%%%%%%%%%%%  Dynamic Model of Spur Gears  %%%%%%%%%%%%%%%%%%
3  %%%%%%%%%%%%%            main_1 - Healthy             %%%%%%%%%%%%%
4  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5  %%%% © PHM-BGU Laboratory, Ben-Gurion University of the Negev, %%%%
6  %%%%%%%%%%%%%%%%%   Be'er Sheva, Israel. 2023     %%%%%%%%%%%%%%%%%%
7  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
8  clear all ; clc ; close all ;
9  path2fold = 'C:\Users\Lior\OneDrive - post.bgu.ac.il\Project - OL - 2023\Model API' ;
10 addpath(fullfile(path2fold, 'main of selected examples'))
11 addpath(fullfile(path2fold, 'Spur Gear Dynamic Model - Library'))
12 addpath(fullfile(path2fold, 'Gear Signal Processing - Library'))
```

You can use the codes and data for any academic purposes; however, you are requested to cite:
[1] Matania, O., Bachar, L., Roee Cohen, & Bortman, J. "A novel hybrid and publicly available model for spur gear vibrations based on an efficient dynamic model" arXiv:2410.05073 (2024). https://doi.org/10.48550/arXiv.2410.05073

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