# Article information:

A simple procedure for generating locally refined 2D quadrilateral finite element meshes of gears - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0094114X2030402X>

# Article summary:

1. A new meshing procedure is developed to generate two-dimensional locally refined quadrilateral meshes of gear drives.

2. The proposed procedure includes enhanced local mesh refinement capabilities and a mesh quality enhancement technique.

3. The performance of the proposed procedure is illustrated with numerical examples and compared to other existing meshing procedures.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides a detailed description of a new meshing procedure for generating two-dimensional locally refined quadrilateral meshes of gear drives, which includes enhanced local mesh refinement capabilities and a mesh quality enhancement technique. The performance of the proposed procedure is illustrated with numerical examples and compared to other existing meshing procedures in terms of mesh distortion and accuracy of the results.

The article appears to be reliable and trustworthy, as it provides detailed information on the proposed meshing procedure, its features, and its performance when compared to other existing meshing procedures. Furthermore, the article does not appear to contain any promotional content or partiality towards any particular method or approach.

However, there are some points that could be further explored in order to increase the trustworthiness and reliability of the article. For example, it would be beneficial if more details were provided on how exactly the local mesh refinement capabilities are enhanced, as well as on how exactly the mesh quality enhancement technique works. Additionally, it would also be useful if more information was provided on how exactly the comparison between different meshing procedures was conducted in terms of accuracy and distortion levels. Finally, it would also be beneficial if more details were provided on possible risks associated with using this new meshing procedure (e.g., potential errors due to incorrect implementation).

# Topics for further research:

* Local mesh refinement techniques
* Mesh quality enhancement techniques
* Gear drive meshing procedures
* Mesh distortion levels
* Accuracy of meshing procedures
* Potential risks of meshing procedures

# Report location:

<https://www.fullpicture.app/item/22ae230d61f097725964c88bc37cfded>