Open-Source Magnetics Design Platform Is Launched

Alfonso Martínez has announced Open Magnetics (OM), an open-source platform containing online tools for designing and simulating magnetics components. This platform, which is still in an early stage of development, is intended to be based on public scientific research and knowledge. According to Martinez, the philosophy behind this project stems from the idea that "all scientific knowledge is a fundamental right and should be accessible to the whole human race."

The platform is fully open source, which means that any code used in the models or calculations is available to the community, and all data about shapes, materials, wires, stocks or properties will be downloadable. In addition, any information about models, electromagnetics theory or design procedure will be there. And most importantly, anybody can contribute (see the figure).

OM is free, not even requiring user registration. Even so, users that register will gain the opportunity to store their libraries in the server, for their private use or for sharing with the community. The OM platform is for the research community. Anyone developing models, functions or solver add-ons for any kind of magnetic characteristic, parameter or feature (i.e. capacitance, core losses, etc.) can contribute with their code to the open-source repository. The contribution will be always available to the rest of the community.

"Are you researching a new core losses model for your PhD, and you think it is more accurate than iGSE? This is a place where you can benchmark your model against the existing ones and make it available for any designer in the world," says Martinez.

OM is also a place for designers and manufacturers of magnetics. Any part modeled using MAS format can be added to the platform and used in any simulation or drawing. Currently under development, MAS is a language for unambiguously describing any magnetic component. More details about MAS will be released in the coming months.

"You can create your own customized core of any family and shape. Do you want a PQ42? You can get it. Do you want to simulate a distributed gap over the top half of the central column of that PQ? Done in three clicks. And many more/…." says Martinez.

The Open Magnetics platform is in the alpha stage, with only a few functions and models implemented. "But you can go and check our roadmap, and if you find something you really like, vote for it! Have you already checked it and found a bug? Let us know in the comments, in a PM, or at the email that appears on the web. Found something you think is cool? Let us also know," says Martinez.

He adds "And the most important part, if you also believe in Open Source and want to collaborate in our project (in anything, modeling, testing, frontend, marketing, whatever), you are really welcome to join us!" For more information, see https://openmagnetics.com/ and https://github.com/OpenMagnetics/.

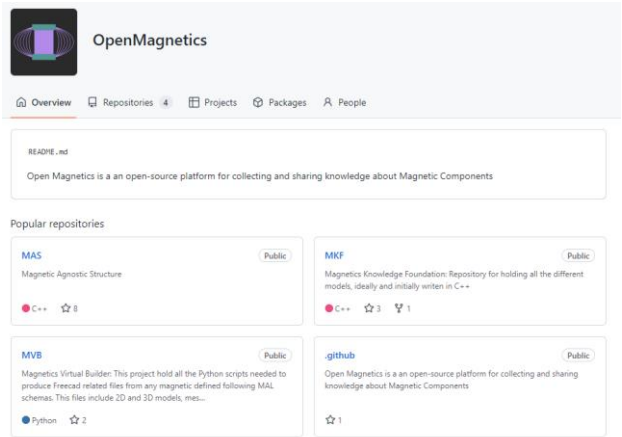

Figure. Open Magnetics (OM) is an open-source platform containing online tools for designing and simulating magnetics components. Still in an early stage of development, the platform is fully open source so that any code used in the models or calculations is available to the community, and all data about shapes, materials, wires, stocks or properties will be downloadable.