

# Flux aligned mesh generation for 2D tokamak equilibria

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Due to the very large anisotropic character of strongly magnetized plasma, the use of flux aligned grid is generally believed to be highly useful (or even mandatory) to obtain accurate and reliable simulations for fusion applications. For realistic geometries, the magnetic geometry can only be computed by the use of specialized equilibrium solvers (e.g [1]) solving the non-linear Grad-Shafranov equation. The output of these solvers then have to be used as input to construct flux aligned meshes that respect the magnetic topology. This process usually require some manual input and expertise from the final users to identify the relevant features of the magnetic topology (X points, magnetic axis). Here, we will describe an original method for the automated construction of flux aligned grids using an Isogeometric analysis approach [2, 3].

## References

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