

nov25 rep nummethods.tex

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There are some older methods that use the vorticity equation rather than NS then the fluid velocity is represented by 3 parts: free stream contribution solid body contribution vortex-vortex contribution They noted that few particles gave a much better result. The problem was the center singularity in the potential vortex solution that they used. Solution: use vortex with center core. (remove the singularity) Then it worked.

1 Finite element method:

the method used in comsol (not that common in CFD software, usually FVM) Rectangles at border, because vertical resolution is more important than horizontal (vel gradient larger vertically)