3D Target Simulations with

Front Tracking/Ghost Fluid Method

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(1) Setup of the simulation.

The major and minor axes of the elliptic jet are 0.84cm and 0.3cm. We consider 14Gev, 10TP case without magnetic field. The energy deposition data is from the xy cross-section of Sergei's calculation. Ghost fluid method is used to couple the fluid solver and the interface.

(2) Simulation Results.

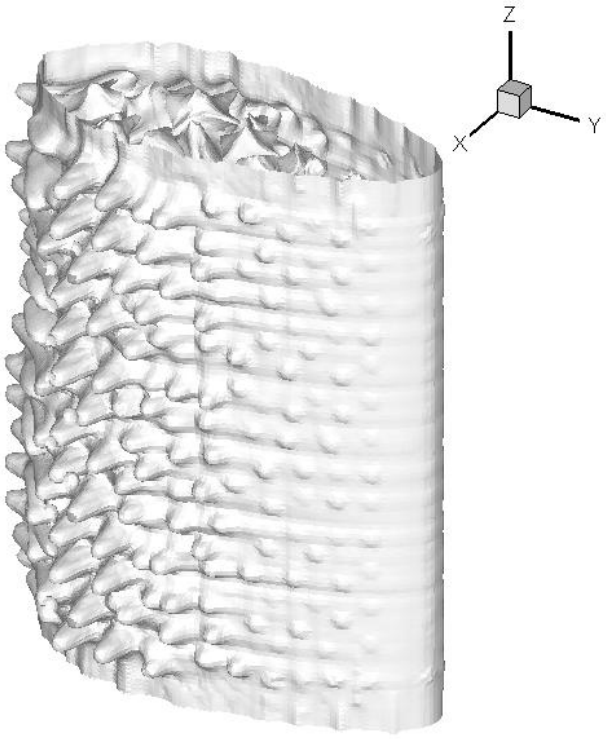

Fig1. Jet surface at 100 micro seconds.

To get the filament velocity distribution, we evaluate the length of 20 filaments in different positions. See Fig2 and Fig3 for the results. Different symbols mean different positions on the jet surface, see Fig 4 for details.

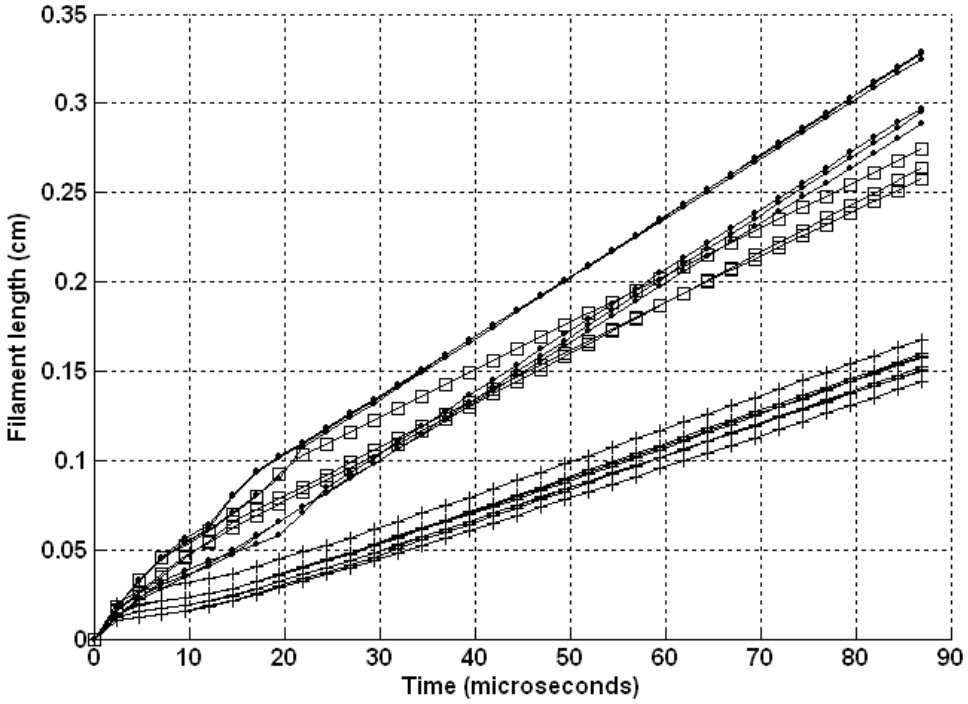

Fig2 Filament length vs. time.

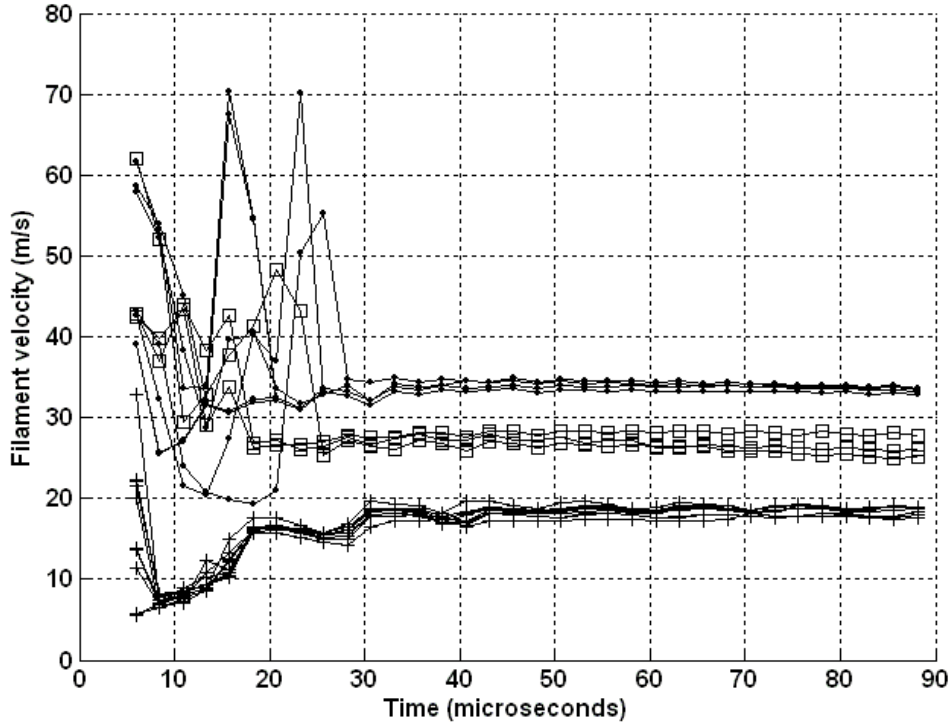

Fig 3 Filament velocity vs. time.

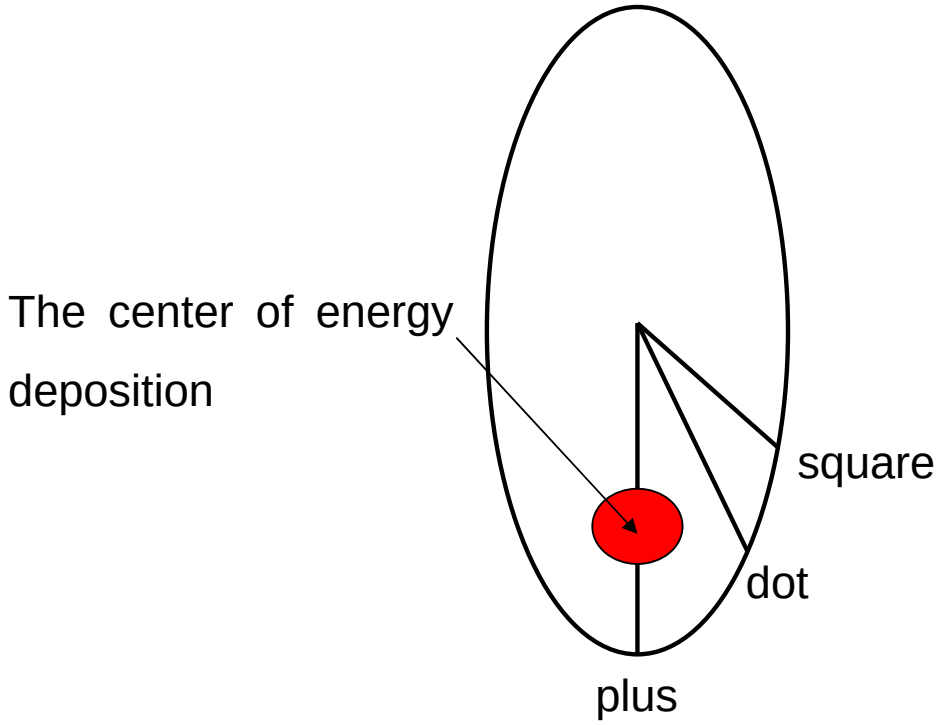

Fig 4. Filament positions in the jet surface