



ILMATIETEEN LAITOS
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Vlasov FVM

QuESpace Science Club
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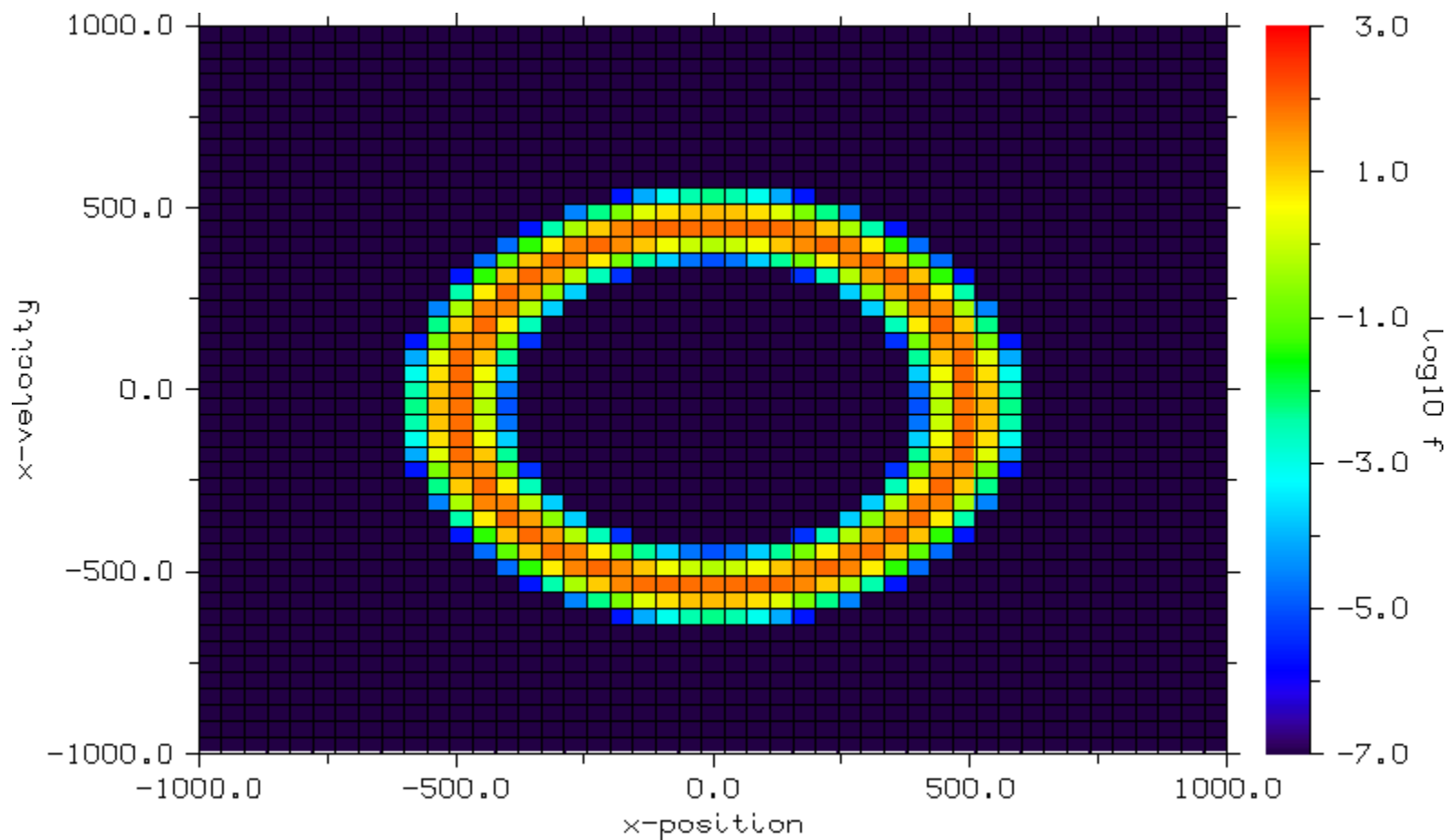


1D3V FVM Vlasov

- 1DV3 Vlasov propagator up and running on my laptop.
- Grid size is rather limited, $92 \times 46 \times 46 \times 46$ (~1 GB mem).
- About 4 seconds / time step.
- Propagator is more diffusive than on 1D1V case, however this is most likely due to coarser grid and “bad” initial state.

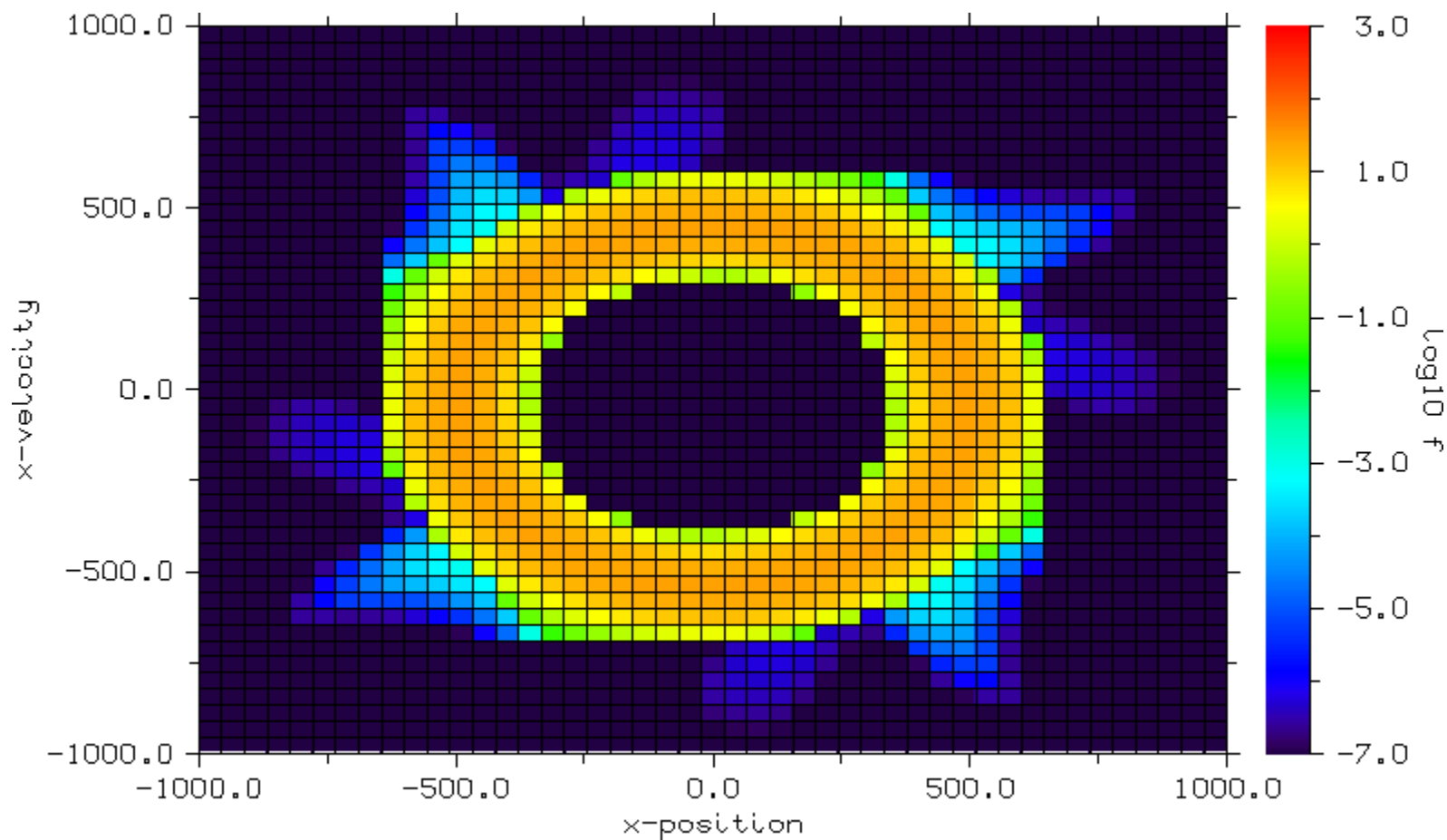


1D3V FVM Vlasov





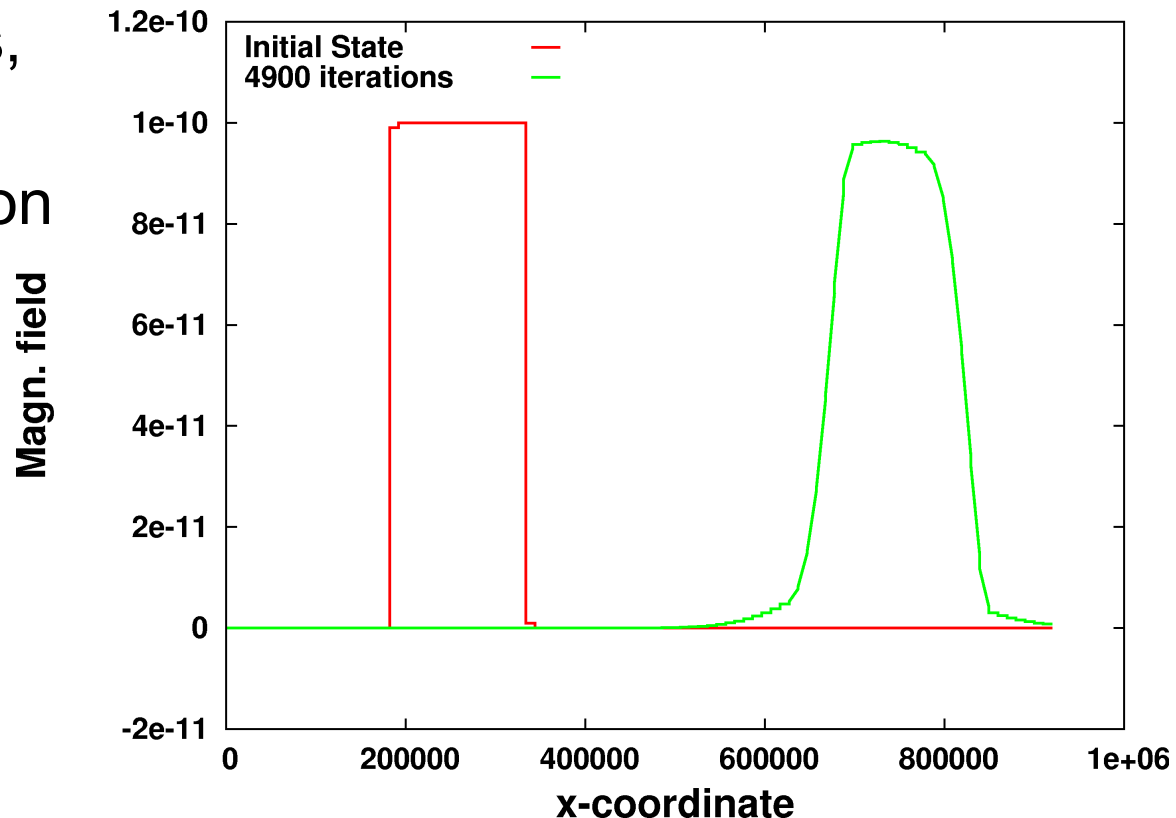
1D3V FVM Vlasov





1D Field Propagator

- Londrillo & Del Zanna propagator for **B**.
- **B** stored on cell faces, **E** on edges.
- 2nd order reconstruction (Van Leer)
- $V_x = \text{const.}$ here





To Do

- I have a bug somewhere, Vlasov propagator + field solver do not work together, probably something simple.
- I'll look into that as soon as I have time.