Random musings on TECHQM

- Practical issue
  - well defined benchmarks
  - well defined set of "test calculations"

- Conceptual issues
  - applicability conditions for hydro
  - hybrid descriptions

- Psycho-sociological issues
  - Are we ready to admit failure of a given description
    - Do we have to?

Practical issues

- Benchmarks for each code/implementation:
  - initial condtions
  - EOS (LATTICE!!!!!!)
  - "observables"
    - spectra, flow, ..., p_t-Range!
- How many free parameters do we have do constrain?
  - define and explore parameter space
- Is there a minimal standard hydro model
  - 2D-3D?, chemical freeze out, ...

Conceptual Issues

- Applicability
  - develop robust criteria beyond which hydro is not valid
    - convergence of different implementation of viscosity
  - Indicate / test if code has been run in non hydro regime
    - Do we want to describe the entire system with hydro, or only mid rapidity?
      - Where to stop?
      - What then; cascade/transport?
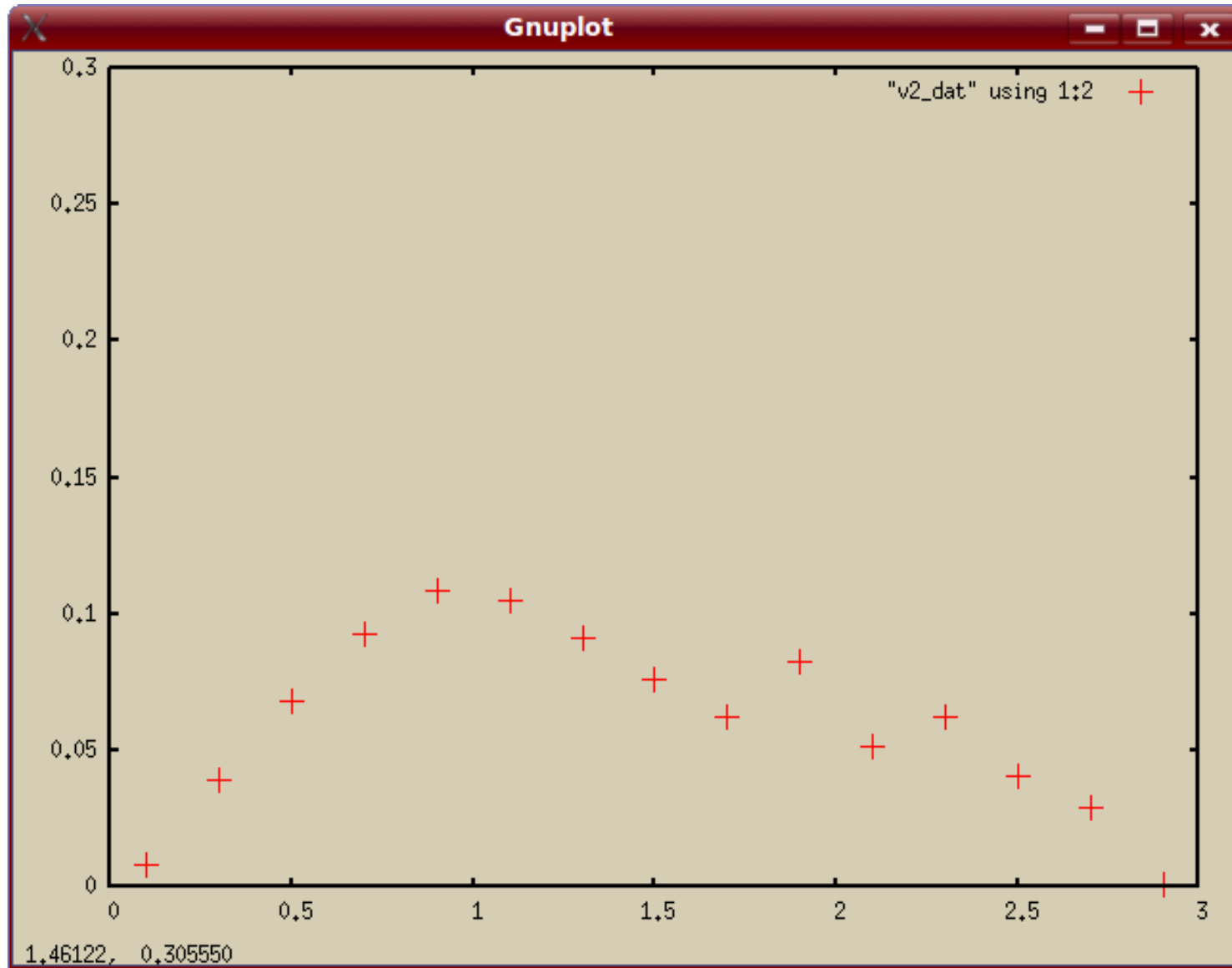   - How do I match?

Conceptual Issue contd.

- Initial conditions
  - GCC has correlations! What kind? If dynamical, then hydro is not good to propagate these initial conditions
  - Otherwise at least sample over ensemble of initial conditions.

- Hybrid descriptions
  - boundary conditions, transition region
  - Can we quantify uncertainty?
    - Do we have / want to?

Sociological issues

- I would like to see "hydro" to fail somewhere
  - much more convincing if successful where expected
- How do I falsify hydro
  - what are the criteria
- How "precise" should we be?
  - order of magnitude?
  - 10 %?????

v_2

P_t