How to model the physics and the chemistry of ISM

PCMI & Numerical computation
- Many numerical models
- Large simulations

INSU prospective :
- Help to Jump to Tier 0 et Tier 1
- Tier 3 crisis
- Reference codes

1 - <u>Reference codes for PCMI</u>

Pôle de diffusion des modèles de référence pour le milieu interstellaire

includes : DustEM, Choc Paris-Durham, PDR, Starformat (Ramses), TDR, …

Are other numerical models necessary ?

2 - <u>Dynamics, physics and chemistry</u>

What are the important processes to include next ?

Ex: coupling gas-grain, dynamics-micro-physics, Cosmic rays-chemistry, chemistry-B

3 - <u>Bridges codes - codes / codes - observations</u>

Post-treatment, coupling codes, tools to compare models & observations (Cassis)

What are the challenges and what could be done ?

4 - <u>Technical issues</u>

Detailed and slow models Vs fast and dirty models ?

What technical issues do you wish to be solved ?