Requirements for CRM Geologic Framework

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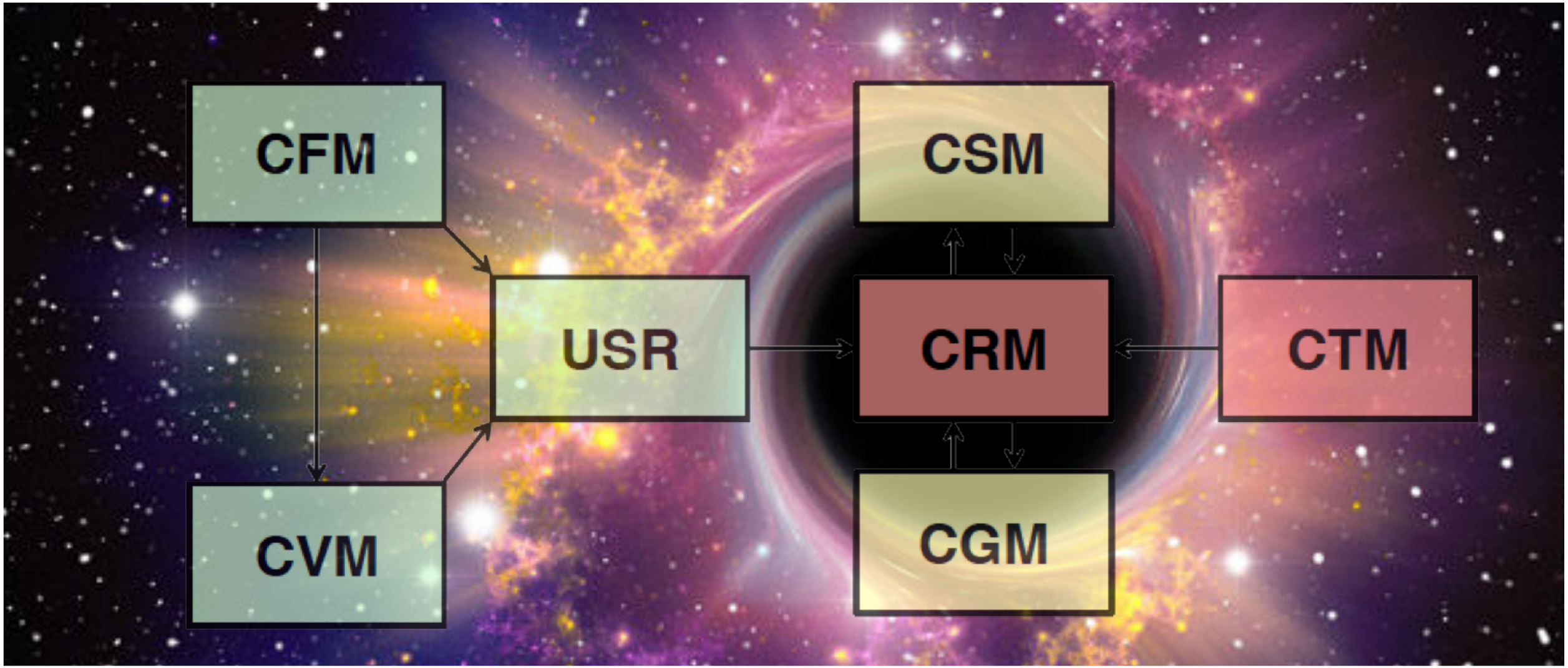
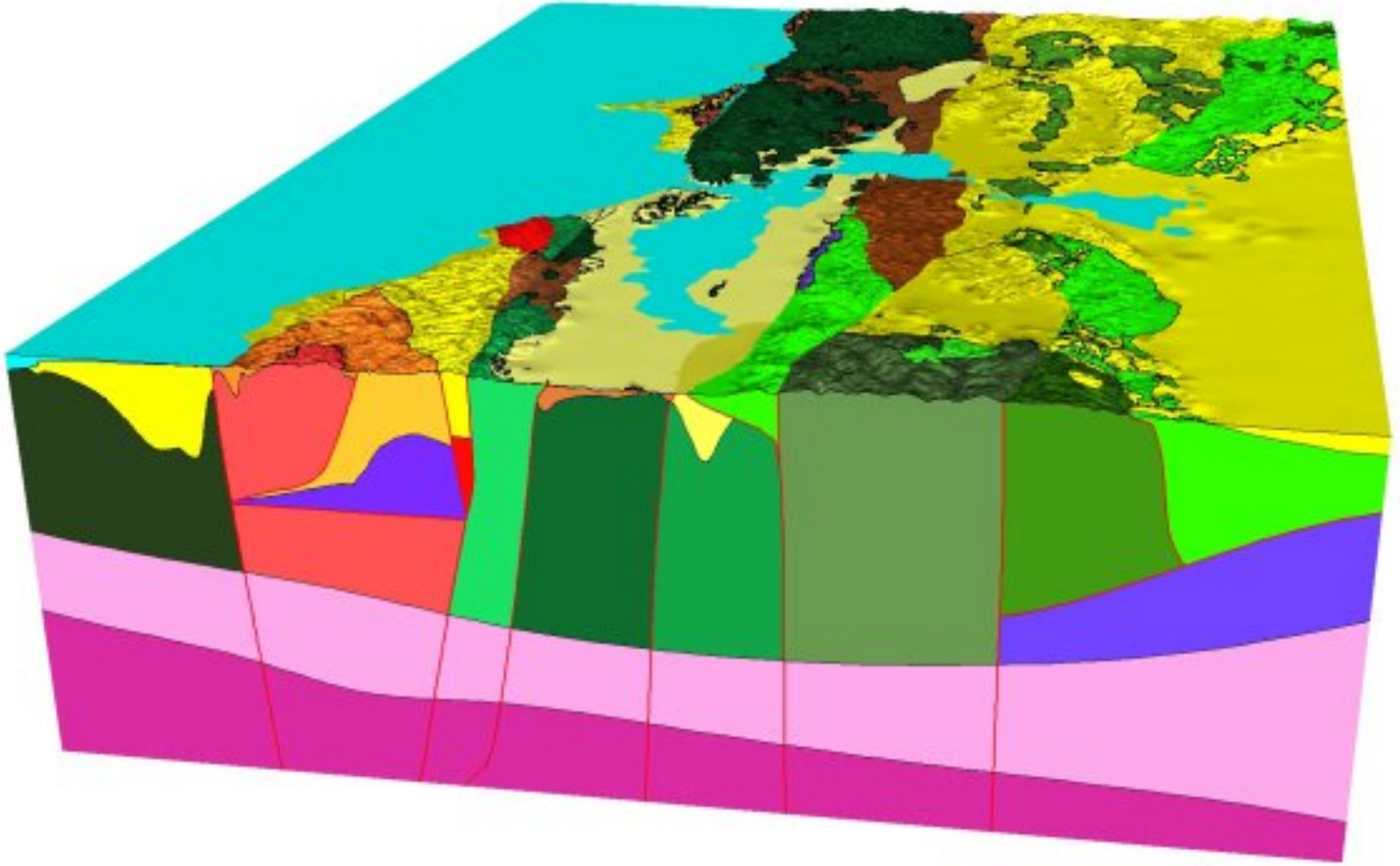
The CRM is central within the SCEC modelsphere



Requirements for a CRM geologic framework

- **Lithologic information sufficient to assign constitutive relationships at every resolved element of the lithosphere of southern California**
- **Constructed through integration of diverse data sets:**
  - **Surface geology, well control, and cross-sections**
  - **Seismic imaging**
  - **Potential fields**
  - **Geochemical and petrological constraints (e.g. xenoliths)**
- **Extrapolation of key interfaces to depth (basement, faults)**
- **Rheological representation of faults and their downward continuation**
- **Consistency (or validation?) of lithology with seismic velocity**

USGS Bay Area Block Model Example



Breakout Group Questions

- **How do you envision the CRM to be used?**
  - **What should be outputs of a CRM: lithology, rock properties, flow laws, etc?**
  - **What should be the logical boundaries and effective resolution of the CRM?**
- **What are the essential details of lithology and structure for the CRM?**
  - **What are the major lithotectonic units to be included in the CRM?**
  - **How should basins be represented?**
  - **How should the CRM represent the middle and lower crust?**
  - **How should the CRM incorporate the mantle lithosphere?**
  - **How should faults be represented within the CRM?**
- **What sorts of activities should SCEC support to construct the geologic framework model?**
- **How should the CRM be validated?**

Additional Considerations (via Discussion)