Improving Nemo5 control files

Objective:
to add new functionalities on Nemo5 that allow it to:
• Support definitions rules
• Improve input deck grammar
• Support database views
• Detect loops definitions
• Detect used parameters on a simulation

Approach:
[1] to modify current implementation improving its grammar and structure.
[2] to detect loops definitions based on ‘in_use’ property.
[3] to create database views based on definitions of ‘namespaces’.
[4] to mark used definitions during a simulation.

Results:
• Database supports rules for definitions, and inputdecks support loops and sets for solvers.
• Each material definition have its own database view, including values defined on an inputdeck.
• NemoDbParameter values were changed from double to struct (properties class).
• Definitions loops are detected and it throws an exception.
• DBParser can dump used parameters during a simulation.

Daniel Mejia, Tillmann Kubis, Michael Povolotsky, Gerhard Klimeck