

Objective:

to add new functionalities on Nemo5 that allow it to:

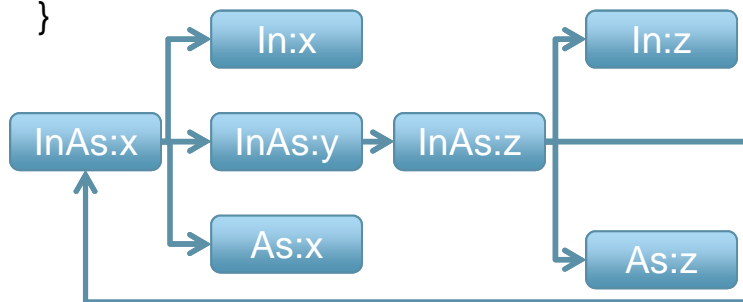
- Support definitions rules
- Improve input deck grammar
- Support database views
- Detect loops definitions
- Detect used parameters on a simulation

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.

```
rule[$param$_XX_$param$_YY] = XX:$param1$ + YY:$param2$
```

```
group InAs {
  x = In:x + y + As:x
  y = z + 10
  z = In:z + x + As:z
}
```



Results:

- Database supports rules for definitions, and inputdecks support loops and sets for solvers.
- Each material definition has 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.