Mosfet-based amplifier circuits

This is the initial testing of ELABs way of handling mosfets. The netlist given, contains an M (for mosfet). The circuit is built as normal.

```
circuit = Circuit('circuits/amplifiers/mosfet_based/cs_r_load.txt');
circuit.list
```

```
ans =
    'Vin 1 0 AC Vin
     VDD 2 0 DC VDD
     RD 2 3 RD
     M1 1 3 0 100 R_gg_M1 R_dd_M1 R_ss_M1
     '
```

After using the **ssm** (small-signal-model) function, the circuit should have modelled the mosfet using resistors and an active source, then automatically simplified it.

```
ELAB.ssm(circuit);
circuit.list
```

```
ans =
    'Vin 1 0 AC Vin
     Req1 0 2 (RD*R_o_M1)/(RD + R_o_M1)
     G_m_M1 2 0 0 1 G_m_M1
     '
```

```
ELAB.analyze(circuit)
```

```
Symbolic analysis successful (0.292658 sec).
```

Which does seem to work. More testing will of course be required. In addition to the small-signal-model, I will also add other mathematical mosfet models, that includes capacitances etc.