# Update 2017/08/01

**New feature**: a combined temperature-voltage sweep can be done using the keyword `Temperature-Voltage` in the field <SweepType> of <SweepParameters> (see the example of code below). In this case, the simulation can be parallelized. <Threads> defines the number of parallel threads. Its optimal value should be the number of CPU cores available (if the available memory is sufficient). Within each parallel temperature sweep, a serial voltage sweep is performed.

```
<SweepParameters>
    <SweepType>Temperature-Voltage</SweepType>
    <MinV> 50</MinV>
    <MaxV> 60</MaxV>
    <DeltaV> 2</DeltaV>

    <MinT> 25</MinT>
    <MaxT> 300</MaxT>
    <DeltaT> 25</DeltaT>

    <Threads>12</Threads> <!-- Parallelization for Temperature-Voltage sweep
-->
</SweepParameters>
```

Note that for such voltage-temperature sweep, <Maximum_Number_of_Threads> in <Simulation_Parameter> should be set to 1 (combined parallelization will result in lower performances).

```
<Simulation_Parameter>
  ...
  <Maximum_Number_of_Threads>1</Maximum_Number_of_Threads>
</Simulation_Parameter>
```

At the end of the simulation, current and gain maps can be displayed. `Gain_map.fld` gives the maximum gain at each (voltage,temperature) point. `Max_Gain_frequency.fld` gives the map of the corresponding photon energy for which the gain is maximum.