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# **FCS OpenCL Documentation**

***Release 0.0***

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## FCS Python API

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`fcs.NO_PROFILING`

`fcs.WITH_PROFILING`

`fcs.PROFILING_ONLY`

`fcs.fcs` (*totalDroplets*, *dropletsPerGroup*, *time*, *photonsPerIntensityPerTime*, *maxPhotons*, *rngReserved*, *localPhotonsLen*) → photons

### Parameters

- **totalDroplets** (*int*) – Total number of droplets in simulation
- **dropletsPerGroup** (*int*) – Number of droplets assigned to each OpenCL work group (must divide totalDroplets)
- **time** (*float*) – Simulation time in seconds
- **photonsPerIntensityPerTime** (*float*) – Photon density at single molecule maximum intensity
- **profiling** (*int*) – Either `fcs.NO_PROFILING`, `fcs.WITH_PROFILING` or `fcs.WITH_PROFILING`.
- **maxPhotons** (*int*) – GPU allocated buffer size
- **rngReserved** (*int*) – Reserved unique random values from stream per droplet
- **localPhotonsLen** (*int*) – Size of buffer in local memory

**Returns** photons, profilingData or both

**Return type** `numpy.ndarray`, `fcs.ProfilingData`, or `tuple(numpy.ndarray, fcs.ProfilingData)`

Returns photon times from gpu using physical and simulation parameters.





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## Indices and tables

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