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Overview of experimental progress on understanding photon strength functions with an emphasis of the Oslo method
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The so-called Photon Strength Functions (PSFs) for different multipolarities are, together with the Nuclear Level Density (NLD) the key entities describing the statistical γ -decay of nucleus. It is well known that PSFs at energies above the threshold for particle emission are well described by the Lorentzian shape of the Giant Electric Dipole Resonance (GEDR). On the other hand, shapes of PSFs at the low-energy tail of GEDR are known rather poorly. Information on the PSFs at the GEDR tail can be obtained from several different experimental techniques. They will be summarized and the most important ones briefly introduced in this contribution. Special emphasis will be put on the so-called Oslo method which allows simultaneous extraction of the NLD and the PSFs from particle- γ coincidence measurements. This method has been used for determining the NLD and the PSFs in many nuclei in $A \approx 45 - 240$ range during past years. Examples of the most interesting results obtained with this method will be shown. The results will be compared to information on the PSFs available from other experimental techniques. The strengths and the weaknesses of the method will be thoroughly discussed.