

## TRENDS IN THE STATE OF THE ART STORAGE RING BASED SR SOURCES

**D. Einfeld**

<sup>1</sup> CELLS-ALBA, E-08290 Cerdanyola del Valles, Spain

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The storage ring based Synchrotron Light Sources have to deliver to the experiments and users a high quality beam, with high brilliances and small flux densities. Furthermore, the beam has to be stable in the position as well in the current. To get a high brilliance and a high flux density a small cross section of the beam is required, which is determined by a small emittance of the beam as well small beta functions in the storage ring. Both are determined by the lattice, which is given by the arrangements of magnets around the storage ring. Within

this seminar it will be explained how this is achieved in modern synchrotron light sources. Furthermore the functionality of all components used in a synchrotron light source, like bending magnets, quadrupoles, sextupoles, rf-system, vacuum system, *etc.* will be described too. A special issue is the stability of the beam, which is given by the impedance of the accelerator and the rf-system. Within the seminar it will be explained too, how modern light sources are getting a stable beam up to 500 mA.