Operation Results of Compact SR Ring "AURORA-2D" with 7 Tesla Wiggler, T. HORI, Y. MIKAMI, T. TAKAYAMA, S. YAMADA, SUMITOMO- HEAVY-IND - A racetrack type synchrotron light source "AURORA-2D" (A2D), still compact but has two long straight sections for insertion devices (I.D.), was developed and tested together with a 7 Tesla superconducting (s.c.) wiggler. It would be suitable for scientific researches such as materials' structure analyses by the capability of I.D.'s installation. The unique features of A2D are based on the conventional normal-conducting technology, on the contrary to recent trends of applying the s.c.'s to small rings. The concept of A2D stands, therefore, on achieving a good performance using the cost-effective and easily-operational ring. The most eminent is the normal-conducting bending magnets whose field strength, 2.7 Tesla, is somewhat comparable to s.c.'s. Other main parameters are 700 MeV electron energy, 1.4 nm critical wavelength, 191 MHz of RF with 14 harmonics, etc. First tested w/o I.D. and later, after achieved 300 mA stored current, we successfully proved, for the first time, the usefulness of the combination of a compact racetrack ring and s.c. wiggler [1], where the low-energy-injection method was adopted. The summary of experiments which finished already will be presented.

[1] T. Hori, Proc. 11th Symp. on Accel. Sci. & Tech. (Harima, Japan, Oct. 21-23, 1997) pp. 534-536.