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## **Lead –Lithium Ceramic Breeder Blanket for Russian Thermonuclear Reactor DEMO-S**

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Two blanket concepts were considered and found perspective in Russian design of demonstration thermonuclear reactor DEMO-S (1998-2000): ceramics helium cooled and lithium self-cooled, where lithium is used as tritium breeder and coolant. Indian specialists proposed in 2007 a concept of the lead –lithium ceramic breeder (LLCB) blanket for their DEMO reactor and a test module for International Thermonuclear Experimental Reactor ITER. Lead –lithium eutectic and ceramic are used for tritium breeding, eutectic is cooling also the breeding zone and helium is cooling the blanket first wall and module structure. Analysis of this concept for Russian DEMO-S reactor is made in the paper. Some advantages over helium cooled ceramic breeder and pure lead –lithium blankets are revealed, in particular higher value of tritium breeding ratio and longer service life. The conclusion on viability of LLCB blanket for DEMO reactor and RF interest in developing and testing in ITER of this blanket type is expressed.

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