On a problem of Bertram Yood

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It is well-known that the Jacobson radical of a nonradical ring R coincides with the intersection of all maximal regular right ideals of R and with the intersection of all maximal regular left ideals of R. In case of topological ring R Bertram Yood posed in 1964 the following problem: when the intersection of all closed maximal regular right ideals of R and the intersection of all closed maximal regular left ideals of R coincide.

We shall give some sufficient conditions for a topological ring in order that these two intersections of ideals coincide.