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Alexander A. Katz (katza@stjohns.edu), St. John's University, Dep. of Math & CS, 300 Howard Ave., DaSilva 314, Staten Island, NY 10301, **Roman Kushnir** (kushnir_roman@yahoo.com), University of South Africa, Department of Mathematical Sciences, P.O.Box 392, Pretoria, 0003, and **Mark Ustayev*** (mark.uuuu@gmail.com), University of South Africa, Department of Mathematical Sciences, P.O.Box 392, Pretoria, 0003. *On real, Jordan and Lie structures in locally W^* -algebras.*

We discuss real * -, Jordan and Lie subalgebras of topological * -algebras which are projective limits of projective families of complex W^* -algebras. Various abstract characterizations of these algebras are studied and various theorems on their representations are obtained. (Received September 22, 2009)