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# CONVERGENCE OF NETS IN POSETS VIA AN IDEAL

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Abstract. It is well known that the meaning of the convergence in posets stings the interest of many investigators such as R. F. Anderson, J. C. Mathews and V. Olejček (see, for example [13, 14]). Among others, the notions of the order-convergence and of the $o_2$-convergence in posets were studied in details, presenting necessary and sufficient conditions under of which these convergences are topological. Many researchers give a special attention to the study of these convergences in different posets, inserting new knowledge in the classical theory of posets's convergence. In this paper, we introduce the ideal-order-convergence in posets, proving results which are based on this notion. We insert topologies in posets and we study their properties. We also give a sufficient and necessary condition for the ideal-order-convergence in a poset to be topological. The introduction of a weaker form of the ideal-order-convergence in posets, called ideal-$o_2$-convergence, completes our study.

*Key words and phrases.* Order-convergence, $o_2$-convergence, ideal-order-convergence, ideal-$o_2$-convergence, ideal-order-topology, ideal-$o_2$-topology.