1035-06-444   **Lavinia Corina Ciungu*** (`lcciungu@buffalo.edu`), 244 Math Building, College of Arts and Sciences, State University of New York at Buffalo, Buffalo, NY 14260. *On the local multiple-valued logic algebras.*

In this presentation we define and study the local pseudo-BCK algebras with pseudo-product (pseudo-BCK(pP) algebras) as the most general local fuzzy structure. We give a classification of local bounded pseudo-BCK(pP) algebras in perfect, locally finite and peculiar pseudo-BCK(pP) algebras. The local bounded pseudo- BCK(pP) are characterized in terms of primary deductive systems, while the perfect pseudo-BCK(pP) are characterized in terms of perfect deductive systems. We prove that any linearly ordered pseudo-BCK(pP) and any locally finite pseudo-BCK(pP) algebra is local. We define the radical of a bounded pseudo-BCK(pP) algebra and we prove that it is a normal deductive system. Since the pseudo-BCK(pP) algebras are generalization of residuated lattices and pseudo-hoops, we present some results regarding these particular structures. More precisely, we prove that any local residuated lattice is directly indecomposable and that any strongly simple pseudo-hoop is a local pseudo-BCK(pP) algebra. (Received September 07, 2007)