1092-06-205   **Nasir Sohail*** (`snasir@ut.ee`), Department of Pure Mathematics, Faculty of Mathematics, 200 University Ave. West, Waterloo, ON N2L 3G1, Canada. *Epimorphisms in certain varieties of partially ordered semigroups.*

A partially ordered semigroup, briefly posemigroup, is a pair $(S, \leq)$ comprising a semigroup S and a partial order $\leq$ (on S) that is compatible with the binary operation, i.e. for all $s_1, s_2, t_1, t_2 \in S$, $(s_1 \leq t_1,\ s_2 \leq t_2)$ implies $s_1 s_2 \leq t_1 t_2$. A posemigroup homomorphism is a monotone semigroup homomorphism. A class of posemigroups is called a variety if it is closed under taking homomorphic images, direct products (endowed with componentwise order) and subposemigroups. Each variety of posemigroups gives rise to a category in natural way. A posemigroup homomorphism $f : (S, \leq_S) \longrightarrow (T, \leq_T)$ is called an epimorphism if it is right cancellative in the usual sense of category theory. Clearly f is an epimorphism in the category of all posemigroups if such is $f' : S \longrightarrow T$ in the category of all semigroups, where $f'(s) = f(s)$ for all $s \in S$. The aim of this article is to show that the converse of this statement, which may not be true in general, holds in the varieties of absolutely closed semigroups. (Received August 09, 2013)