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Public Announcement Logic (PAL, henceforth), first suggested in late 80s and has gained popularity with the recent developments in dynamic epistemology, is a dynamic epistemic logic where the epistemic status of the knowers is updated by an external truthful announcement [4, 2]. It is very well known that PAL is complete for traditional Kripke semantics of epistemic logic. In this work, we show that PAL is complete with respect to topological semantics of modal logic [1]. Notice that topological semantics of modal logic is historically the first semantics for modal logic [5]. In topological semantics, recall that modalities are defined in terms of interior or closure operators. Thus, our result establishes a connection between external epistemic updates and such topological reasoning. Moreover, we also provide a construction to achieve the same result in non-topological epistemic logics such as subset space logic [3, 1]. In such logics, the epistemic status of the knowers may not necessarily form a topological space. Yet, PAL is well-behaved in such systems as well.

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