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**Bing Xu\*** ([xbing@mail.fresnostate.edu](mailto:xbing@mail.fresnostate.edu)). *The Relationship between the Topological Properties and Common Modal Logics*. Preliminary report.

It is well-known (proved by McKinsey and Tarski in Ann. of Math. (2) 45 (1944) 141) that **S4** is sound and complete with respect to all interpretations in all topological spaces. We show that given any set  $X$  and any interpretation of  $\Box$  in  $X$  that satisfies **S4**, the image of this interpretation is a topology on  $X$ . We also study the influence of the modal axioms of **S4** on topological properties of the image. (Received February 16, 2016)