1039-03-8 **Maria Nogin*** (mnogin@csufresno.edu), Department of Mathematics, 5245 North Backer Avenue M/S PB108, California State University, Fresno, Fresno, CA 93740, and **Aleksey Nogin**.

Dynamic topological logic of the real line.

This talk explores the topological interpretations of the modal language with two modalities – $\Box$, which is interpreted as the interior operation and $\circ$ ("next") which is interpreted as the preimage operation for a continuous function. It is known that the $\Box\circ$ logic $\mathsf{S4C}$ introduced by Artemov, Davoren and Nerode is compete with respect to topological interpretations in $\mathbb{R}^n$ for $n \geq 2$, but it is incomplete with respect to topological interpretations in $\mathbb{R}$. We therefore focus on the logic $\mathsf{L}_{\Box\circ}(\mathbb{R})$ of all the $\Box\circ$ formulas that are sound with respect to topological interpretations in $\mathbb{R}$.

In this talk we present two axioms - **R-1** and **R-2** in $\mathsf{L}_{\Box\circ}(\mathbb{R}) - \mathsf{S4C}$, and prove that they are sound in $\mathbb{R}$. We also demonstrate that any Kripke frame that satisfies $\mathsf{S4C} + \mathbf{R\text{-}2}$ will also satisfy a specific formula **NR**, where $\mathbf{NR} \notin \mathsf{L}_{\Box\circ}(\mathbb{R})$. It follows that $\mathsf{L}_{\Box\circ}(\mathbb{R})$ cannot be complete with respect to any class of Kripke frames. (Received January 15, 2008)