

## Relativity and Modal Logic

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There are two funny things about the special theory of relativity:

- (i) the speed of light is constant and
- (ii) all observers can themselves be observed.

Relativity theory encourages us to abandon any absolute frame of reference. It discourages us from making statements such as “the length of this rod is  $x$ ”, but prefers “the length of this rod is  $x$  in frame of reference  $F$ ”. It is therefore natural to use modal logic to describe relativity theory.

In this talk I’ll review a number of modal logics that attempt to describe aspects of relativity theory. In particular we will see how property (ii) above has to be handled carefully, if we are to restrict to standard Kripke semantics for modal logics.