Why we shouldn´t talk about light when we teach relativity

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After their first drumbeat publication in last September, a CERN collaboration reported on 17 November 2011 their newest findings concerning the challenge of Einstein´s Special Relativity Theory: also their recent scrutiny of measurements at the OPERA detector in Italy seem to confirm that, puzzlingly, neutrinos seem to move faster than light.

These experiments raise a question for physics teaching: Should we abandon to talk about light when we teach Special Relativity? Hasn´t it always felt somewhat unpleasant that light and thus electrodynamics should play such a prominent role in a genuinely *mechanical* theory, as it is mostly presented in our physics textbooks? The historical reason for the traditional exposition in physics teaching is obvious: It has its roots in the year 1905, in Einstein´s famous paper „Zur Elektrodynamik bewegter Körper“ („On the electrodynamics of moving bodies“). In this seminar I will give arguments why we should teach Special Relativity without recourse to a special role of light and I will substantiate my point of view by presenting a sample lecture on how to do it.