

LC Classical Mechanics and Relativity 1

MSci Physics w/ Particle Physics and Cosmology
University of Birmingham

Year 1, Semester 1
Ash Stewart

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Lecture 6: The End of Special Relativity 1

Thu 23 Oct 2025 15:00

Lecture 6 - The End of Special Relativity

Doppler Effect of Photons / EM Waves

Rather than considering sound waves, we consider the doppler effect for photons travelling at the speed of light.

$$f_{\text{emission}} \neq f_{\text{observer}}, \quad \text{if observer is moving relative to the source.}$$

In this context, frequency is often denoted ν not f . λ keeps its original meaning of wavelength.