On Calculations for Wavelength Spectrometry

Dietrich Geisler

Associated Committee ACMS on what is Maybe Science
Spectrometry

Indicates chemical composition

Based on emitted wavelengths
Chemical Reactions

\[2Na_{(s)} + 2HCl_{(aq)} \rightarrow 2NaCl_{(aq)} + H_2 \ (g)\]

Or, more generally, for chemicals \( e, e' \)

\[e \quad \rightarrow \quad e'\]

Time
Wavelength Calculus

Recall that $\lambda = \nu / f$

$\lambda$-calculus

$\lambda$-introduction

$\lambda x. e$

Mixing

$e_1 e_2$
What happens with mixing?

Complicated interactions in real time

“Some antics”
More antics

What about those wavelengths

Frequency

Time

\[ v e \rightarrow v e' \]

Mixing

Time

\[ (\lambda x. e) v \rightarrow e \{v/x\} \]
Questions?