

# Exploring the Strong Coupling Through Natural Language Processing

This work utilizes natural language processing (NLP) techniques to uncover trends and emerging directions in the research about the strong coupling of quantum chromodynamics. We developed an NLP pipeline to extract key topics and trends from abstracts related to strong coupling from the InspireHEP corpus. We performed topic modeling over time which reveals clusters and trends of related ideas that point to new theoretical results, frameworks, and experimental approaches that are gaining traction in this area. By applying these text analysis with our fine-tuned text embedding, we enlighten promising directions and draw connections between disparate works in strong coupling research and put it in context with time. This technique could be extended to map research trends for other topics.

**Primary authors:** SULC, Antonin (MCS (Control System)); CONNOR, Patrick (UNI/EXP (Uni Hamburg, Institut für Experimentalphysik) & CDCS)

**Presenter:** SULC, Antonin (MCS (Control System))

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