

# Chapter 3: Tools and Techniques

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## Outline of the chapter:

### 1 Partial Wave Analysis (PWA)

(A. Foda, M. Mikhasenko, D. Roenchen)

- PWA approaches and two-body final states:  $\pi N \rightarrow MB$
- Three-body final states:  $pp \rightarrow ppM$ 
  - $pp \rightarrow pp\pi^0, pn\pi^+$  (baryon spectroscopy)
  - $pp \rightarrow ppJ/\psi, pp\phi$  (pentaquark searches)

### 2 Analysis of Scattering Experiments: phenomenology (JPAC approach)

→ Example of pentaquark production in  $pp \rightarrow ppJ/\psi$  (D. Winney)

### 3 EFT, $\chi PT$ in baryon spectroscopy, e.g., $pp \rightarrow X\Xi^*$ ?

### 4 Lattice methodology (C. Morningstar, D. Mohler)