

Summary Chapter 4

Hadron-Hadron-Interactions

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Activists



- Convener: CB, C. Hanhart
- Updated list of contributors:
M. Albaladejo, V. Baru, D. Blaschke, M. Bleicher,
B. Doenigus, **M. Doering**, **A. Dubla**, E. Epelbaum,
J. Haidenbauer, P. Hurck, K. Itahashi, R. Kaminski,
B. Kubis, M. Mai, Y. Morino, A. Nogga, J.R. Pelaez,
C. Rappold, T. Reichert, T. Saito, P. Salabura,
A. Szczurek, L. Tolos, D. Wielanek, H. Zbroszczyk, ...

Status



4.1 Meson-meson interactions:

Coupled $\pi\pi$ - KK systems (J.R. Pelaez, B. Kubis)

Charm-meson dynamics: πD , $K D$, ... (M. Albaladejo, A. Dubla)

4.2 Meson-baryon interactions

Text and figures on EFT and CHPT existing (M. Mai)

Charm-nucleon dynamics: $D N$, $D^* N$, $D_s N$, $D_s^* N$ and coupled channels within hidden-gauge, $SU(6) \times HQSS$, $SU(4)$ models. (L. Tolos)

D-p measurements (A. Dubla)

4.3 Baryon-baryon interactions

New text on secondary hyperon-nucleon interaction (J. Haidenbauer)

Further contributions (E. Epelbaum)

Status



4.4 Hypernuclei

First version with review of current experimental status (B. Doenigus)

Theory contribution (A. Nogga)

WASA@FRS contributions (K. Itahashi, C. Rappold)?

4.5 Scattering parameters from production reactions

4.5.1 Dispersive analysis of direct production reactions

Text in advanced state available (J. Haidenbauer)

4.5.2 Femtoscopy

Outline of content available (H. Zbroszczyk), source systematics (D. Wielanek)

Theoretical aspects (M. Albaladejo)

Discussion



- Femtoscopy:
 - How to estimate theoretical uncertainties
 - Limits of Lednicky-Luboshits approximation
 - Beyond s-wave description, what about p- and d-waves?
 - Source description for pp: parameterizations (Gaussian) vs. models (transport?), momentum conservation, resonances, coherence, ...
 - Opportunities of differential measurements: energy, system size, multiplicity, 3D-studies
 - ...
- Relation Ch4 + Ch5
 - Division of topics
 - Change order?