Summary and Closeout

Lectures at the "School on Concepts of Modern Amplitude Analysis Techniques"

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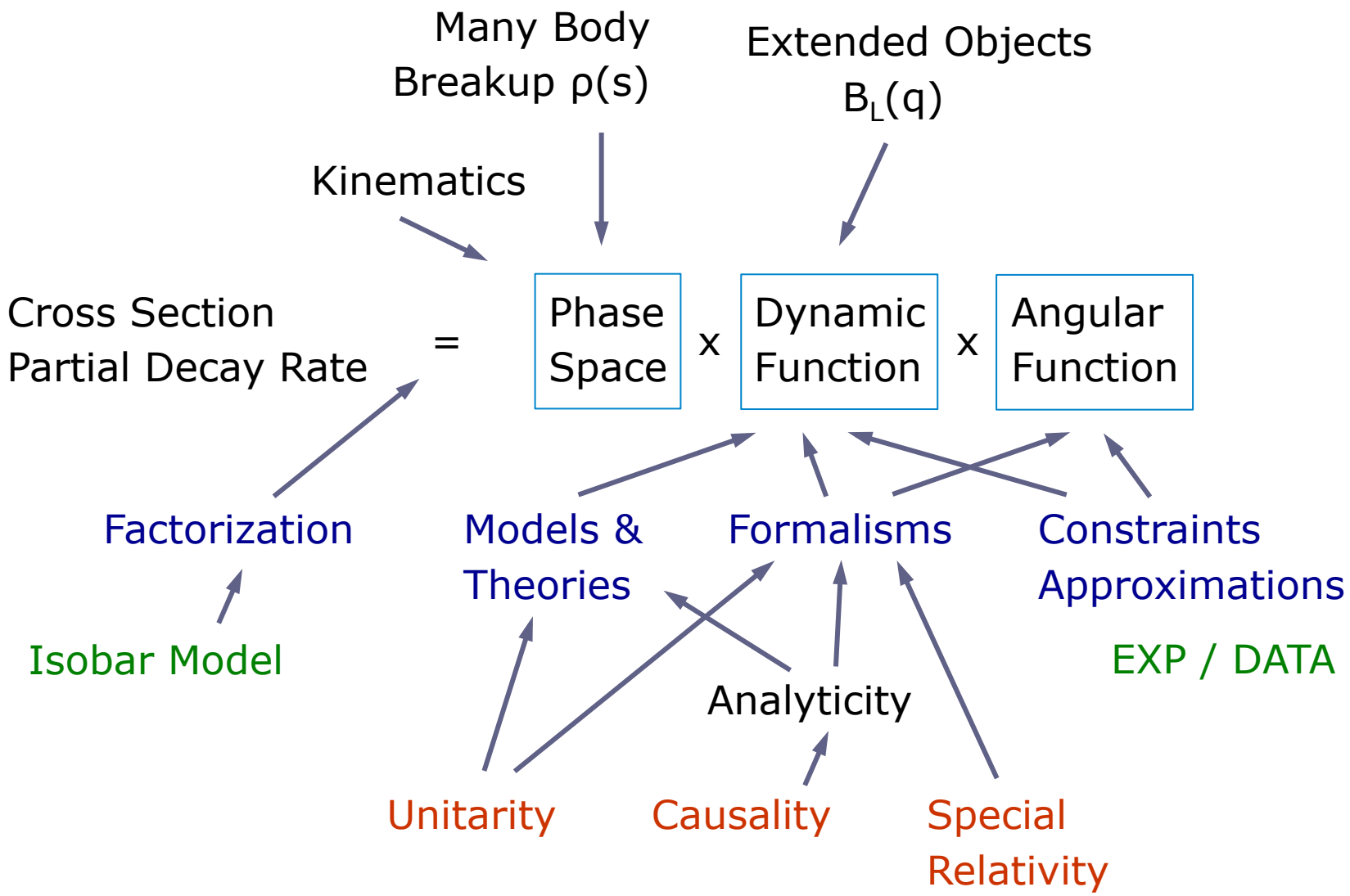
What have we learned ....

We need	We have
Unitarity	Experimental Data
Analyticity	Limited Statistics
Causality	Phase-space Limitations
Singularities	Computing Limitations
Residues	Fitting Limitations
Isobars	Goal
Interferences	the best which is reasonably achievable

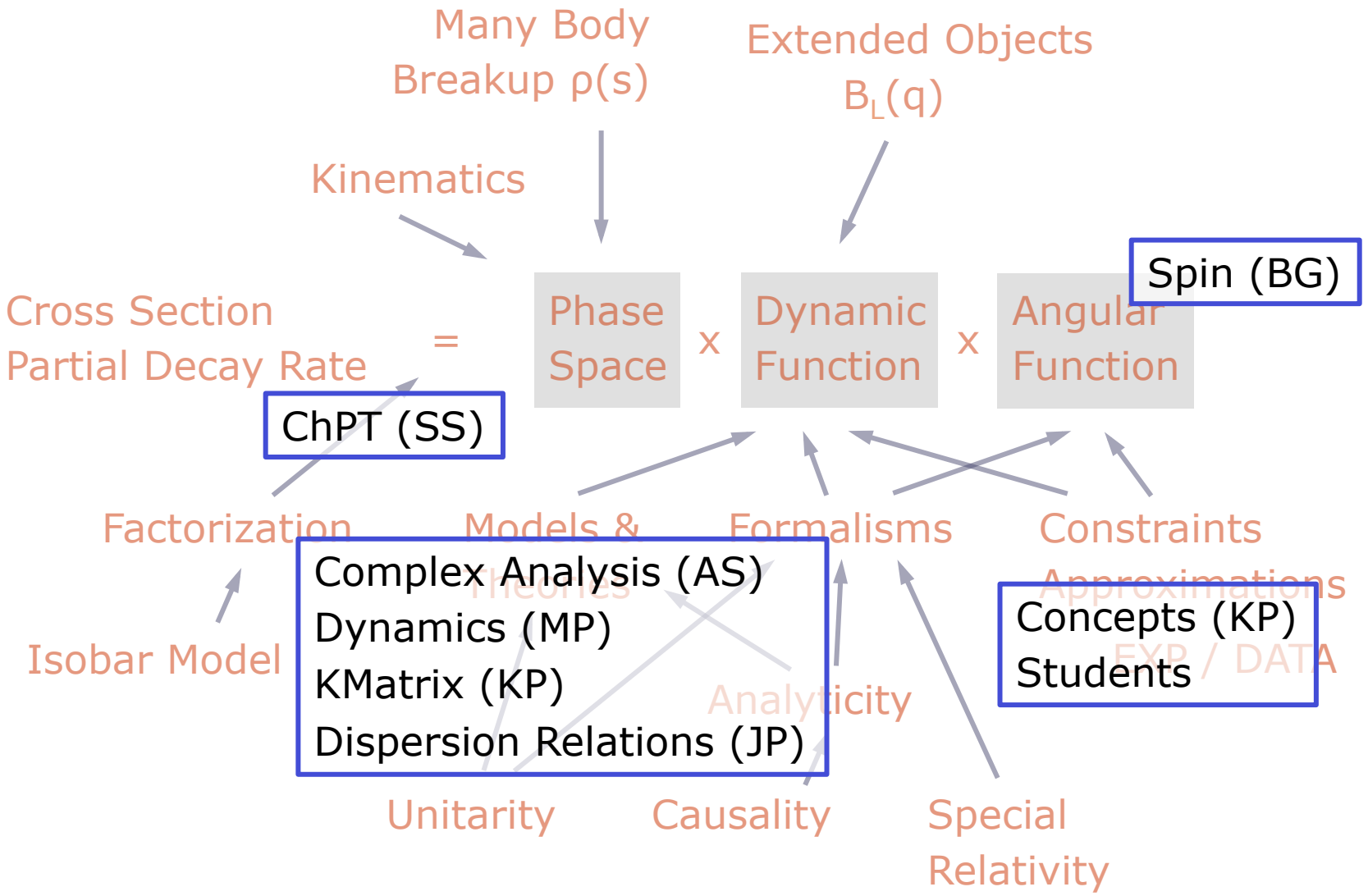
A short reminder

Interferences	⇔	Complex Analysis / QM
Unitarity	⇔	Conservation of probability / QM
Singularities	⇔	Physics
Causality	⇔	“Analyticity” of T
Isobars	⇔	Factorization ⇔ 2-body Problem
Residues	⇔	Coupling strength of resonances

The Picture ....


Many Body
Breakup ρ(s)
Extended Objects
$B_L(q)$
Kinematics
Cross Section
Partial Decay Rate
=
Phase Space
x
Dynamic Function
x
Angular Function
Factorization
Models & Theories
Formalisms
Constraints
Approximations
Isobar Model
EXP / DATA
Analyticity
Unitarity
Causality
Special Relativity

The Picture ....


Many Body
Breakup ρ(s)
Extended Objects
$B_L(q)$
Kinematics
Spin (BG)
Cross Section
Partial Decay Rate
=
Phase
Space
x
Dynamic
Function
x
Angular
Function
ChPT (SS)
Factorization
Models &
Theories
Formalisms
Constraints
Approximations
Isobar Model
Complex Analysis (AS)
Dynamics (MP)
KMatrix (KP)
Dispersion Relations (JP)
Concepts (KP)
Students
EXP / DATA
Analyticity
Unitarity
Causality
Special
Relativity

Perfection is impossible

Limitations translate into truncation / modification of amplitudes

Any approximation has to be handled with care, e.g.

Neglect non-Isobar	⇔	Dynamic function affected ? More waves needed ?
Wave cut-off	⇔	Mimics non-Isobar ? Bias to remaining waves?
Barrier damping	⇔	Affects Interferences

Scrutinize what you do / have done

We would be happy if you are to apply what you have learned


DGB Jugendbildungsstä
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