

Hands-on exercises

Unit 3

Selecting the physics configuration
in the simulation

What you learned in unit 3 lectures

- How Geant4 handles particle interactions with matter
- Basic concepts
 - Particles
 - Processes
 - Cuts
- Physics modelling available in Geant4
 - Electromagnetic interactions
 - Hadronic interactions
- How to select and configure the physics in your simulation
 - “PhysicsList” user class

Today's exercises

- You start from the same simple user application as yesterday
- Today we provide a guided tour of its physics configuration
- You play with predefined commands

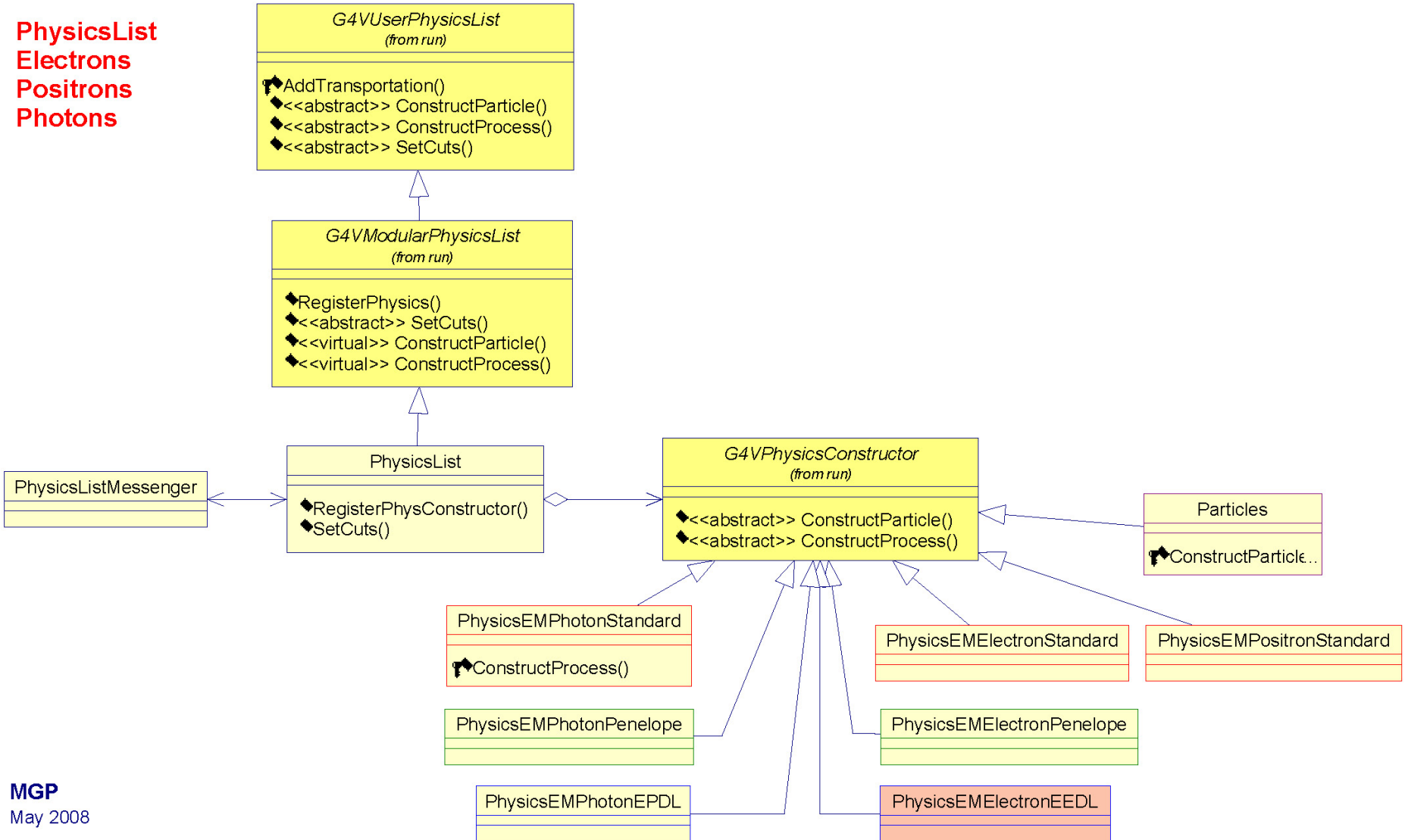
- You modify some features
- You add new functionality

- We propose the exercises
- You get some time to solve them by yourself
- We show you the solution

Topics for the exercise

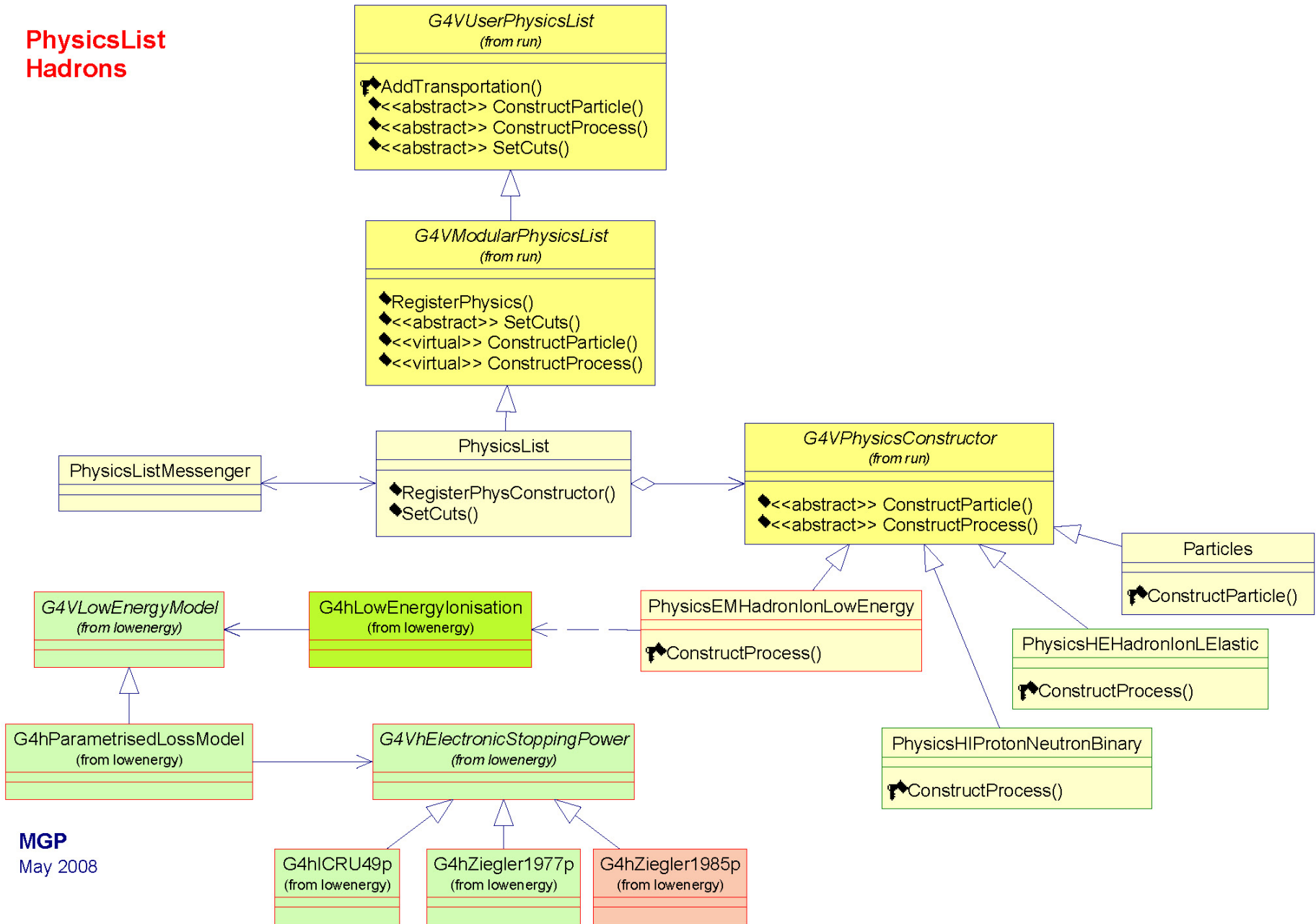
- Electromagnetic processes
 - Try alternative processes/models
- Hadronic processes
 - Play with cross sections
 - Play with final state models
- Other concepts
 - Cuts
 - Step limitation

PhysicsList
Electrons
Positrons
Photons

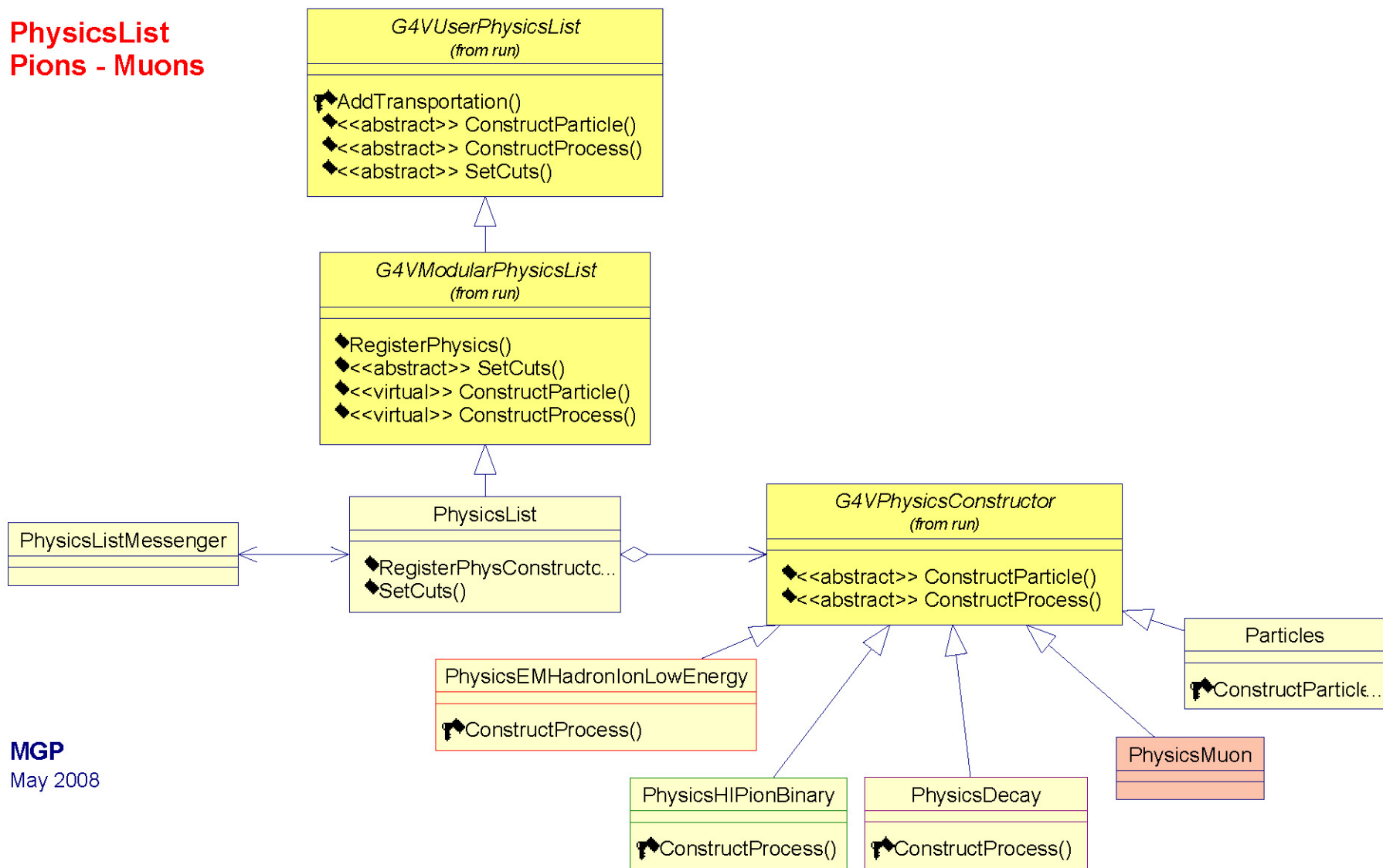


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PhysicsList Hadrons



PhysicsList Pions - Muons



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