Questions about direct photons (part 1)

1. What is the difference between the following terms: direct photons, prompt photons, isolated photons?
2. Why are direct photons in p+p a useful tool to study the gluon distribution in the proton?
3. What is the problem in using direct photon data in global QCD fits for determination of the gluon pdf?
4. What are isolation cuts? Why are they used? Can they be used at low p_T?
5. What is meant by „k_T broadening“? What is its effects on direct photon p_T spectra?
6. What can one do to distinguish single photon showers in calorimeters from showers resulting from the overlap of the two decay photons of a neutral pion?
7. What are the motivations for studying direct photons in A+A collisions?
8. What are photons from „jet-plasma interactions“?
9. What is the „double ratio“ used in the statistical subtraction method?
10. What are the advantages and disadvantages in using external conversion to measure photons compared to calorimeter measurements?

Questions about direct photons (part 2)

1. What is meant by „shadowing“ and „anti-shadowing“?
2. What are possible reasons to expect the direct-photon R_{AA} at high p_T to be below unity?
3. What are the advantages and disadvantages of the internal conversion method in comparison with methods based on real photons?
4. How big is the direct-photon excess in min. bias Au+Au collisions at $\sqrt{s_{NN}}$ = 200 GeV?
5. What is the exponential slope of the low-p_T direct photon excess above the scaled p+p reference? What does this slope suggest about the time at which these photons are produced?
6. In Au+Au collisions at RHIC at low p_T the direct-photon v_2 is similar to the v_2 of pions. Why is this somewhat puzzling?