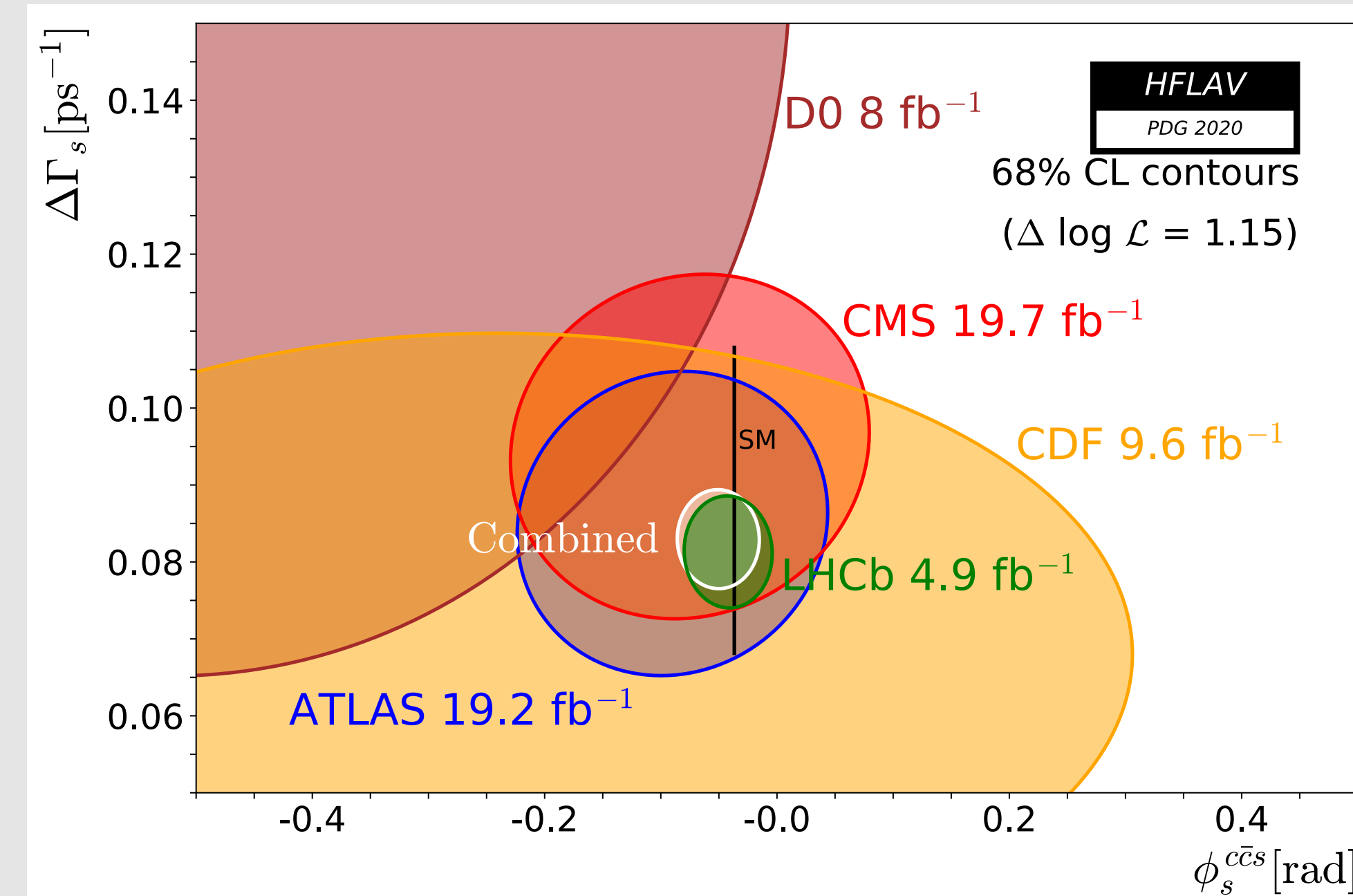


Answers

Which aspects are important for a time-dependent CP violation measurement in $B_s \rightarrow J/\psi \phi$ with $J/\psi \rightarrow \mu^+ \mu^-$ and $\phi \rightarrow K^+ K^-$?



- Decay-time resolution, hadron identification and flavour tagging are all important as discussed, while EM calorimeter is not needed
- Muon identification is also important to identify the J/ψ decay products
 - ➔ In fact, muon ID can be so powerful that in practice you can get away even without hadron ID, which is why ATLAS and CMS can also measure this channel
- The top-right plot shows the combination of measurements of the decay-width difference in the B_s system and of the CP-violating phase ϕ_s where the experiment contributions are dominated by $B_s \rightarrow J/\psi \phi$