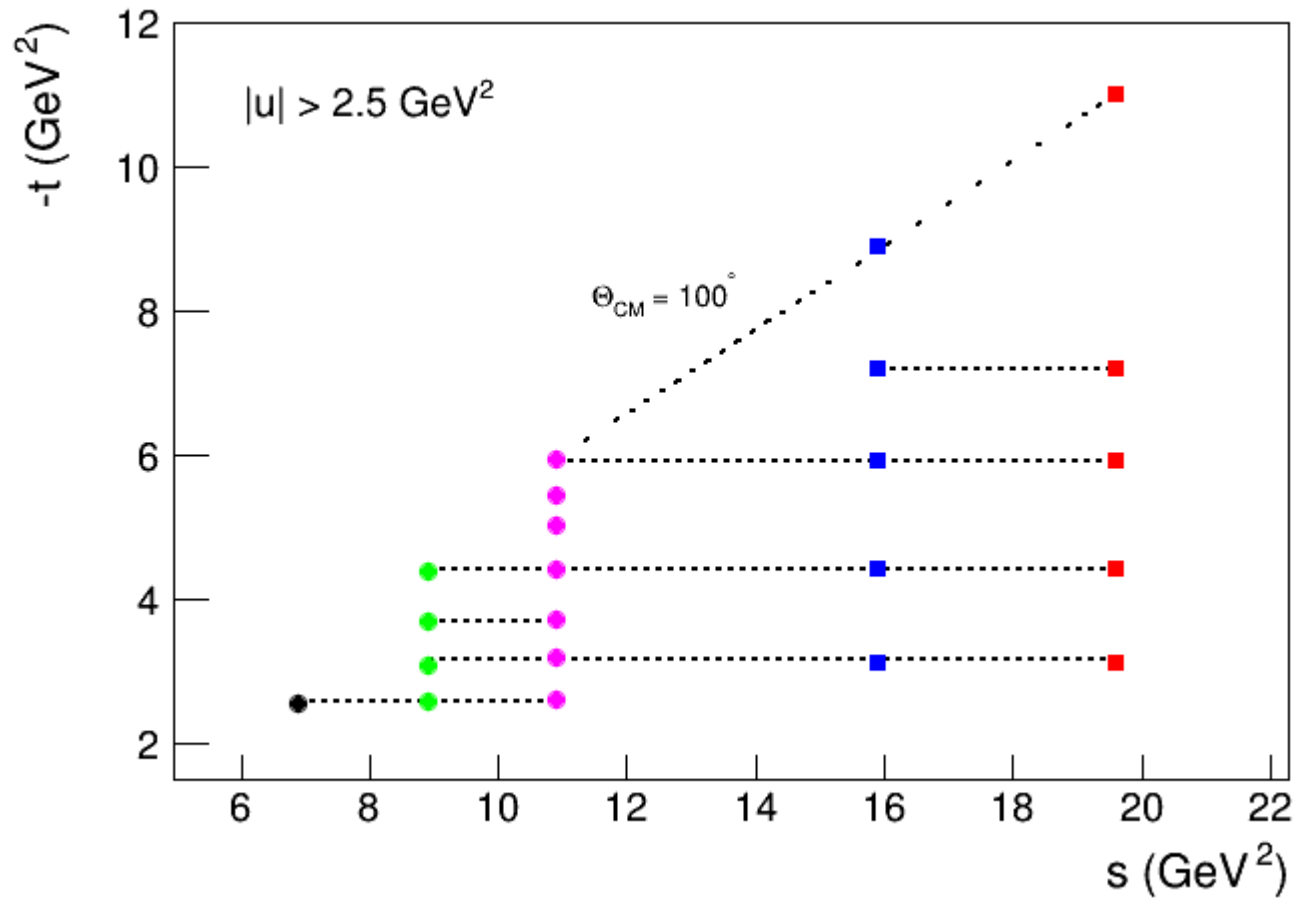
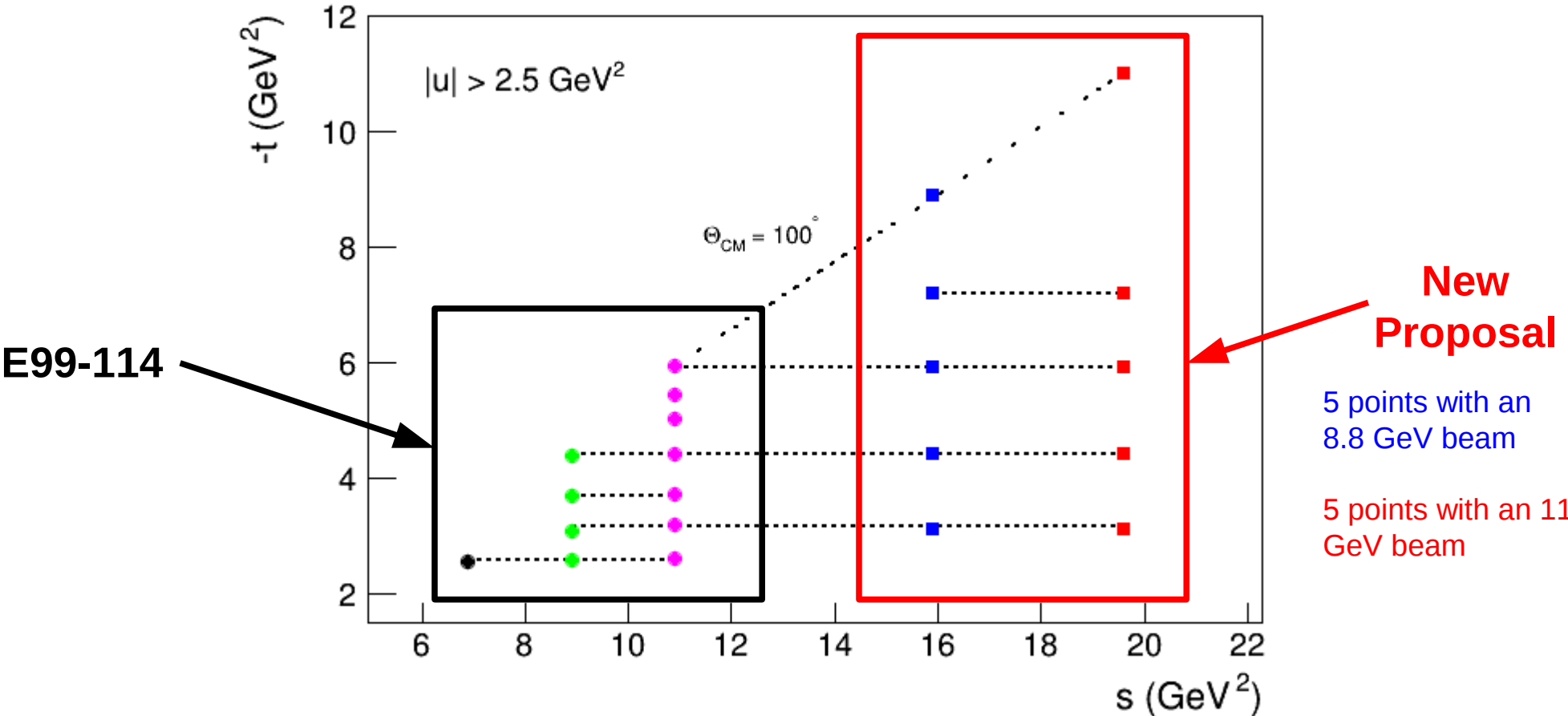


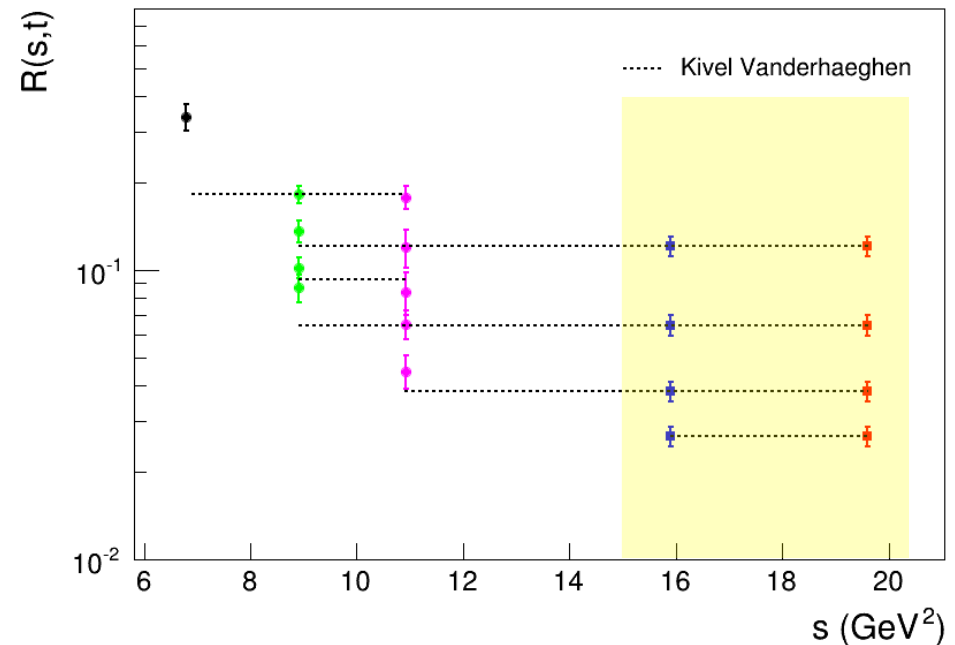
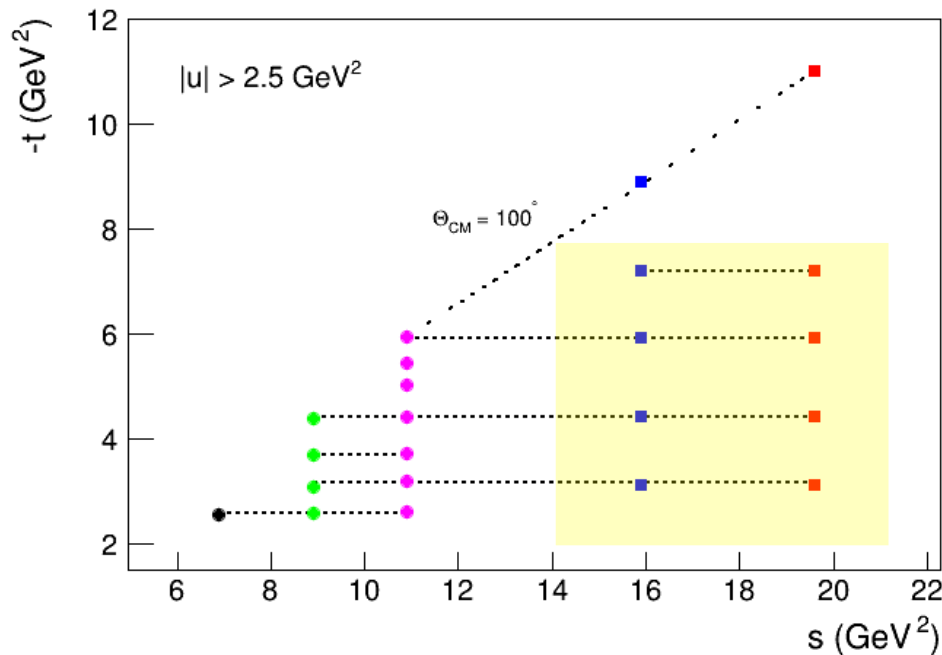
# WACS at 8 and 10 GeV: New Kinematic Settings



# WACS at 8 and 10 GeV: New Kinematic Settings

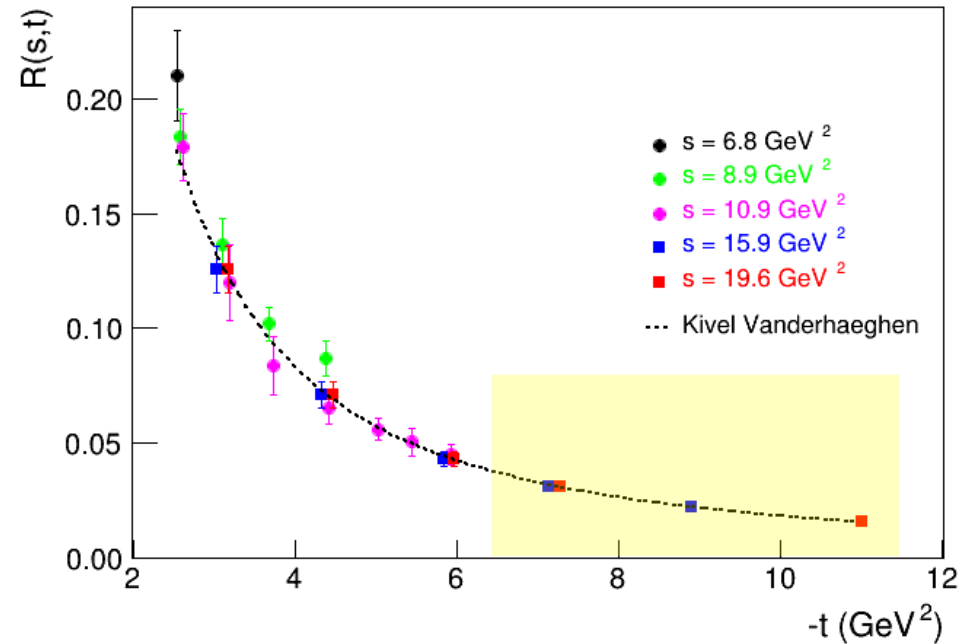
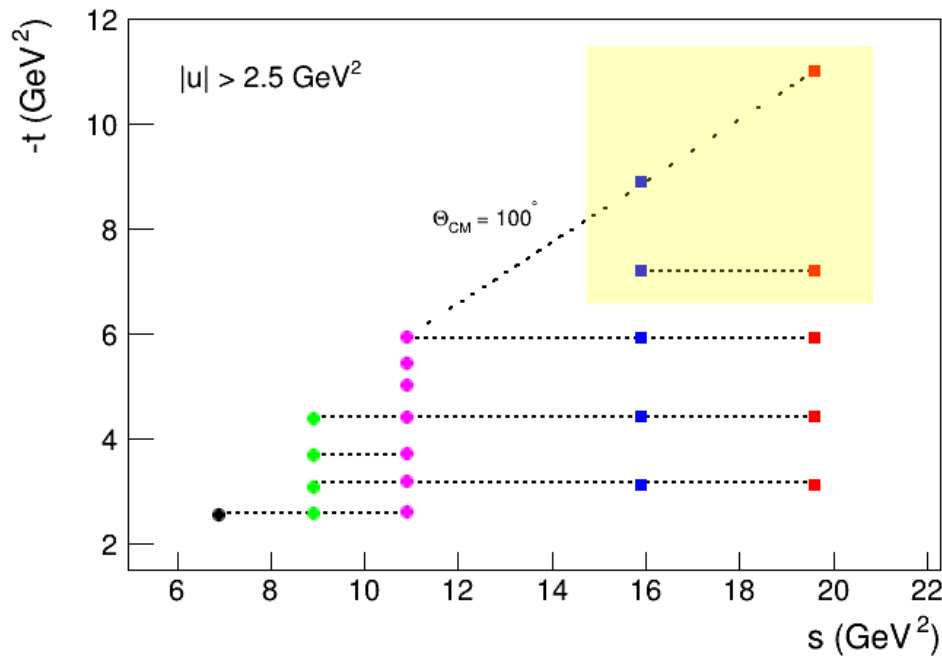


# WACS at 8 and 10 GeV: Physics Goal 1: Fixed -t Scans



Furthermore, the PAC was also not convinced on the choice of kinematic points to make the strongest physics case. To perform the above mentioned factorization study, the PAC felt that it would be more promising to focus on a fixed intermediate value of  $-t$ , combining the  $s$ -range from the previous 6 GeV experiment with the proposed extension in  $s$ .

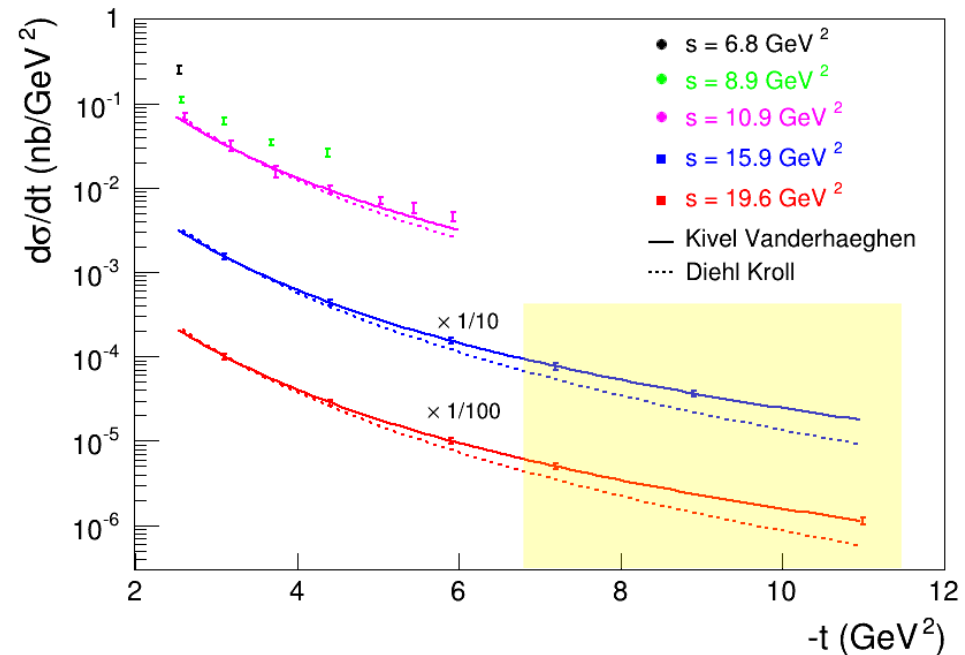
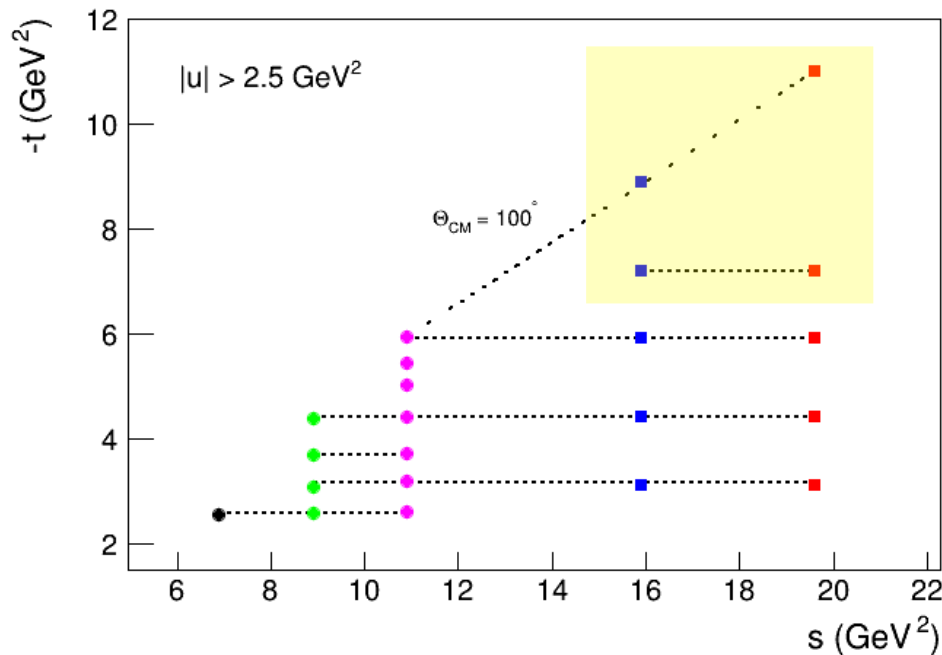
# WACS at 8 and 10 GeV: Physics Goal 2: Increasing the Range in $-t$



Extending the range of momentum transfer as shown in the plot allows:

- (1) Explore the phenomenological relationship between the Compton ( $R$ ) and elastic form factors ( $F_2$ ).

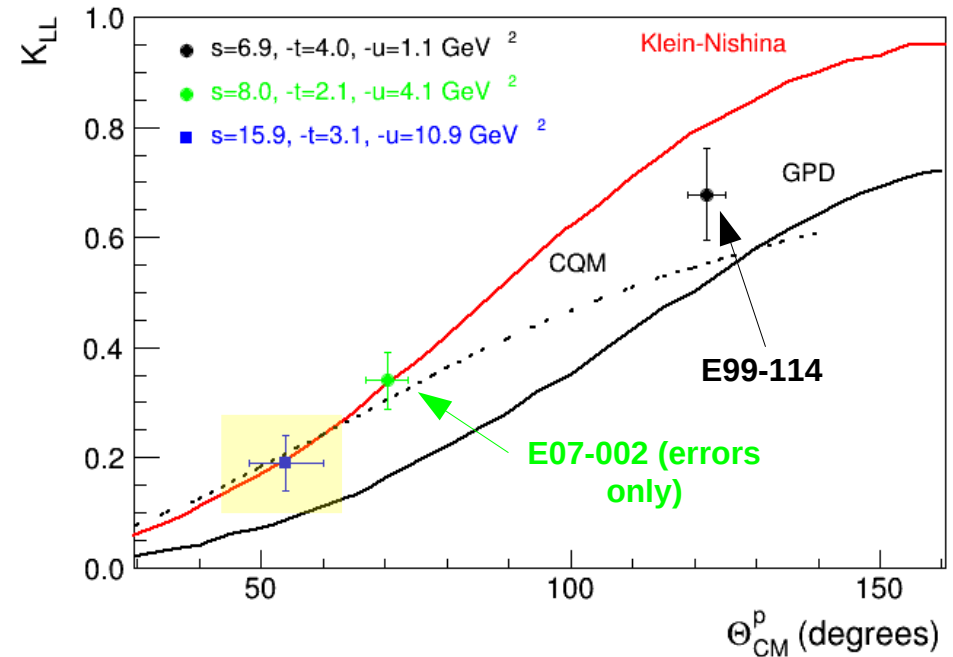
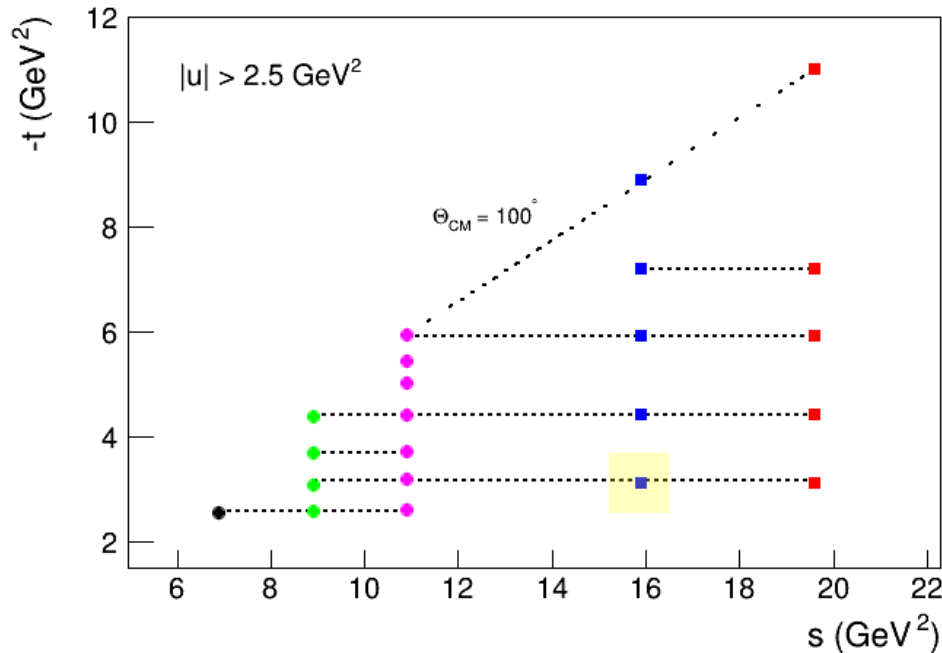
# WACS at 8 and 10 GeV: Physics Goal 2: Increasing the Range in $-t$



Extending the range of momentum transfer as shown in the plot allows:

- (1) Explore the phenomenological relationship between the Compton (R) and elastic form factors (F2).
- (2) Discriminate between the SCET and GPD models, which diverge as  $-t$  increases.

# WACS at 8 and 10 GeV: Physics Goal 3 (??): Polarisation Transfer



A single measurement of polarisation transfer is possible for an additional 2 days beamtime.

The expected precision shown in the plot arises as a result of using a larger portion of the HMS acceptance than for the cross section measurements.

# WACS at 8 and 10 GeV: Estimated Beamtime Request

	$s$ (GeV <sup>2</sup> )	$-t$ (GeV <sup>2</sup> )	$-u$ (GeV <sup>2</sup> )	$\Theta_{\text{CM}}$ (deg)	Time (hours)
<b>4A</b>	15.9	3.1	10.9	56	30 (80)
<b>4B</b>	15.9	4.4	9.7	67	30
<b>4C</b>	15.9	5.9	8.2	81	35
<b>4D</b>	15.9	7.2	6.9	91	40
<b>4E</b>	15.9	8.9	5.3	103	70
<b>5A</b>	19.6	3.1	14.8	49	30
<b>5B</b>	19.6	4.4	13.6	59	30
<b>5C</b>	19.6	5.9	11.9	70	50
<b>5D</b>	19.6	7.2	10.8	78	75
<b>5E</b>	19.6	11.0	6.9	103	150

**Total Estimated Request = 22 days (24 with polarisation transfer)**