

# Scrutiny Process Activities -- Status Report

**Frank Nerling, Klaus Götzen, Ralf Kliemt**  
*Helmholtz-Institute Mainz, GSI Darmstadt*

# Present Results -- Summary

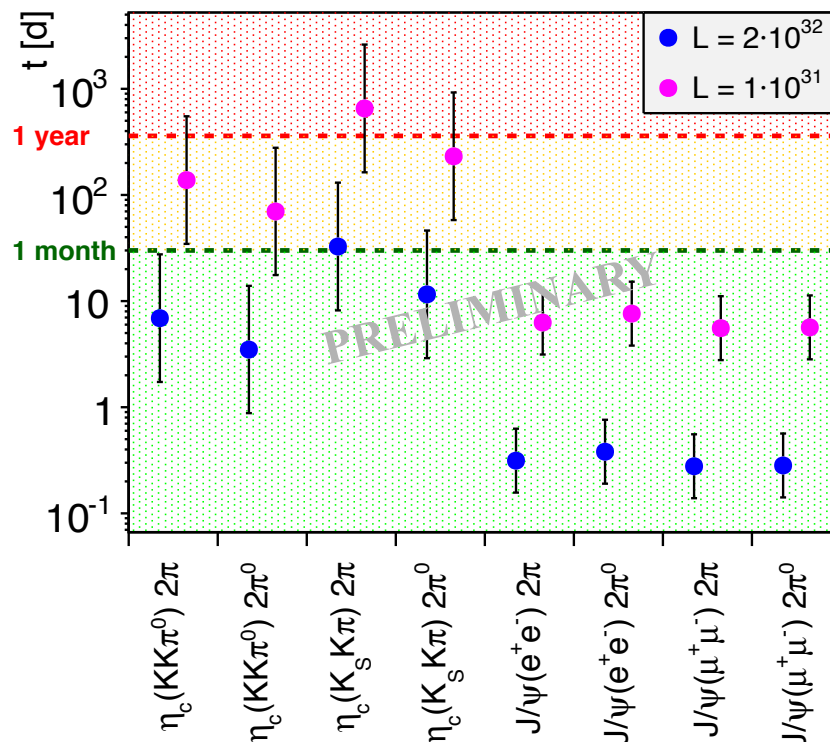
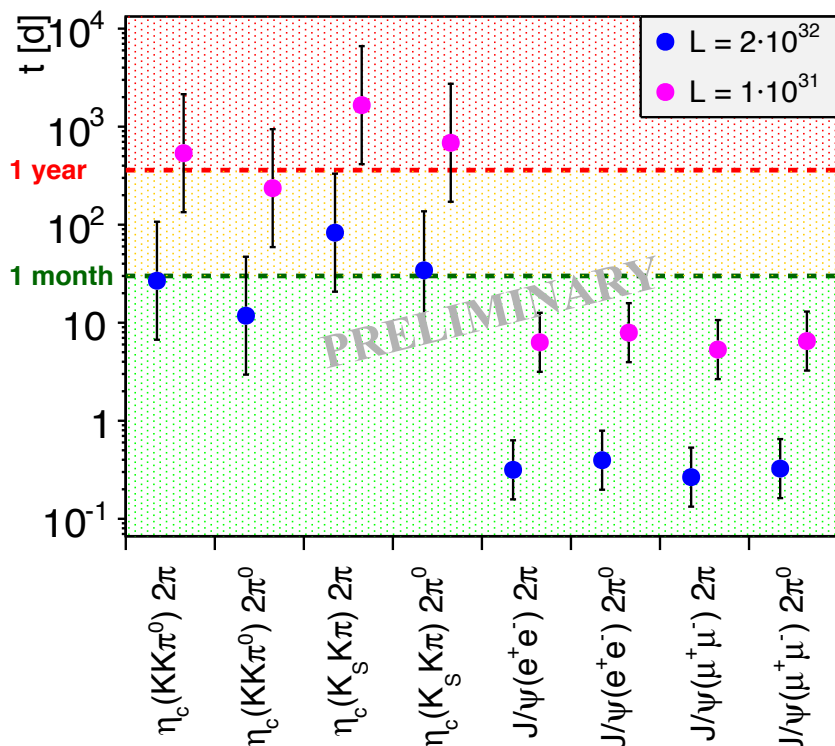
$\sigma_s = 10\text{nb}$

"high & low lumi"  
4.5 GeV

"high & low lumi"  
5.5 GeV

Time for  $5\sigma + N_{\text{sig}} = 1000$  ( $\sigma_s = 10.0\text{nb}$ ,  $\sqrt{s} = 4.5\text{GeV}$ )

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# Present Results -- Summary

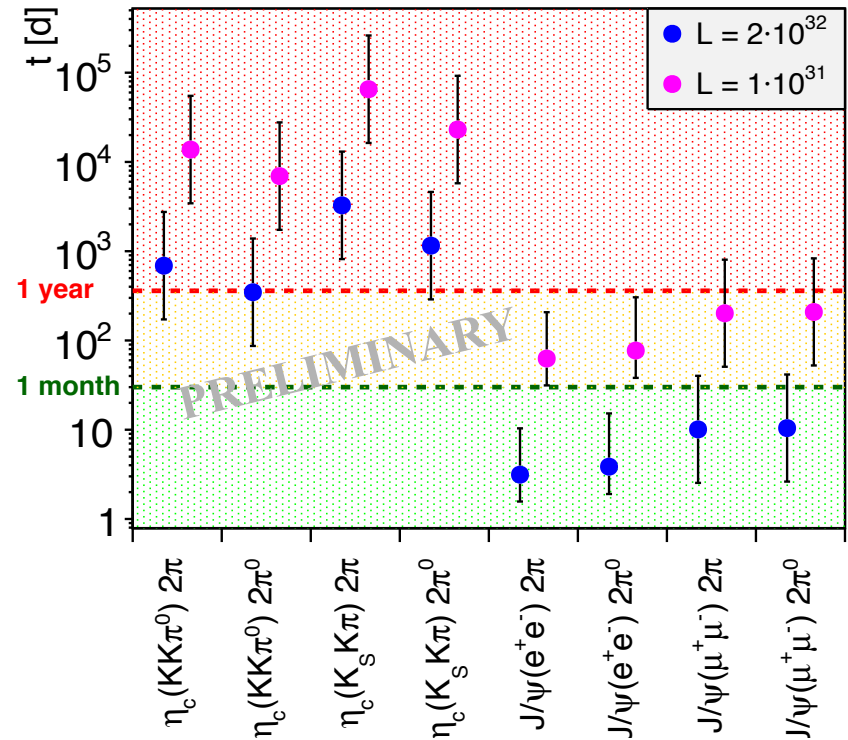
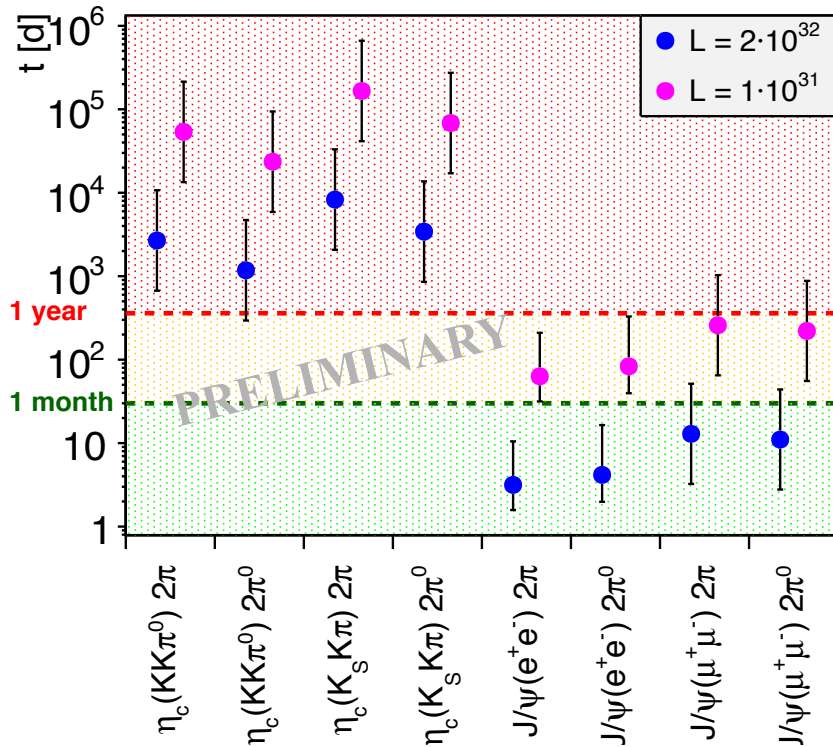
$\sigma_s = 1 \text{ nb}$

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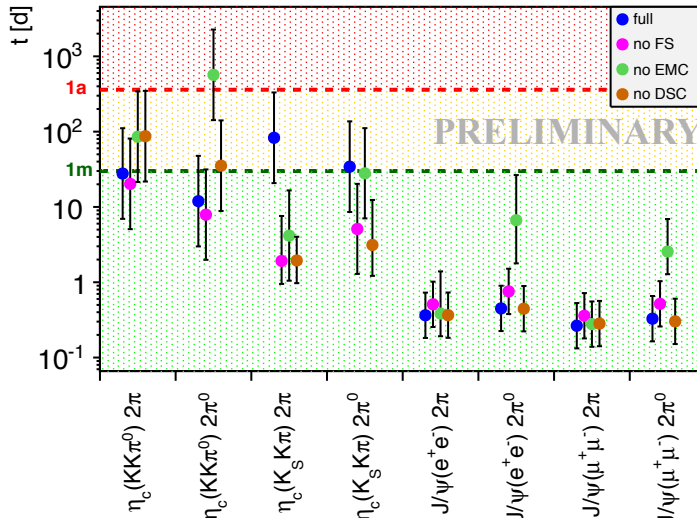
“high lumi”

“low lumi”

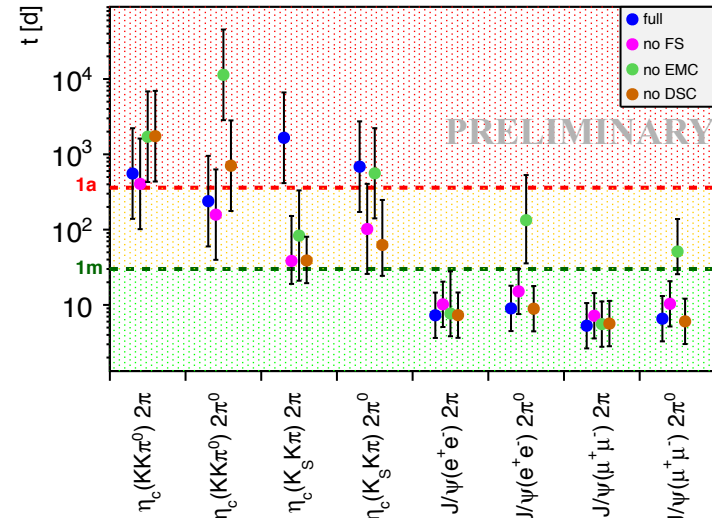
$\sigma_s = 10\text{nb}$

4.5 GeV

Time ( $5\sigma$ ,  $N_{\text{sig}} = 1000$ ) for  $L=2 \cdot 10^{32}/\text{cm}^2\text{s}$ ,  $\sigma_s = 10.0\text{nb}$ ,  $\sqrt{s} = 4.5\text{GeV}$

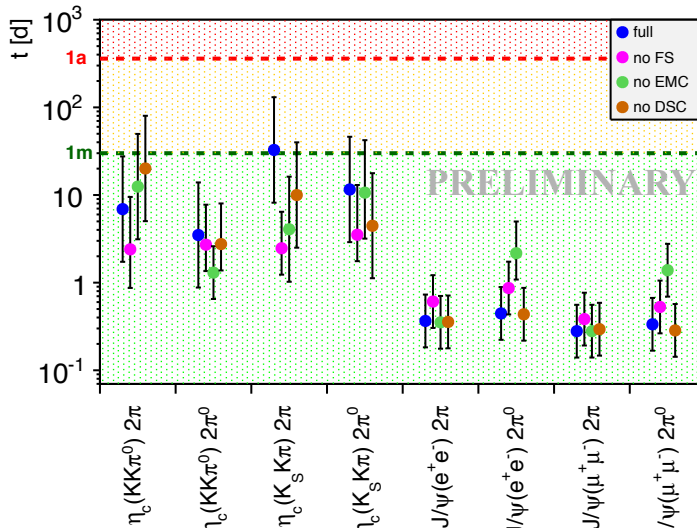


Time ( $5\sigma$ ,  $N_{\text{sig}} = 1000$ ) for  $L=1 \cdot 10^{31}/\text{cm}^2\text{s}$ ,  $\sigma_s = 10.0\text{nb}$ ,  $\sqrt{s} = 4.5\text{GeV}$

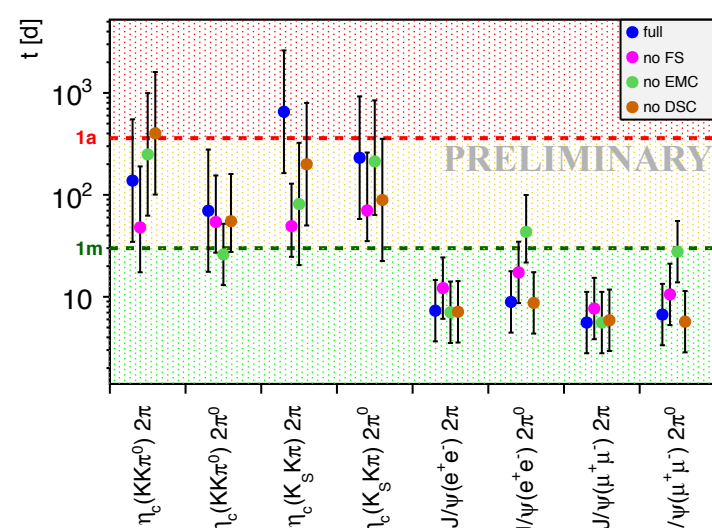


5.5 GeV

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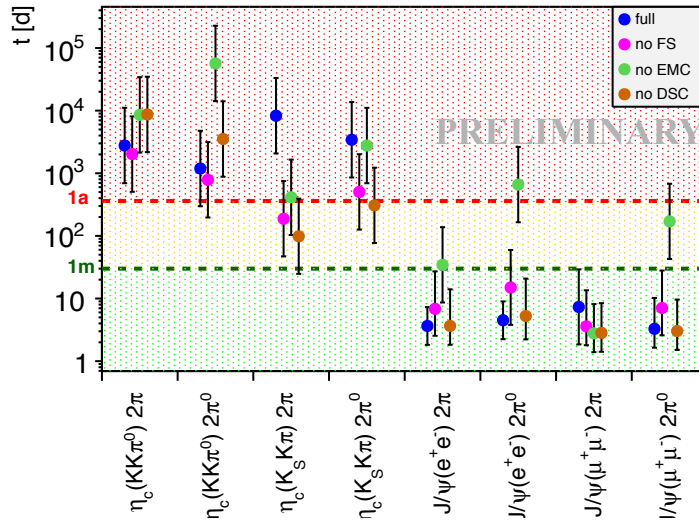


$\sigma_s = 1 \text{ nb}$

4.5 GeV

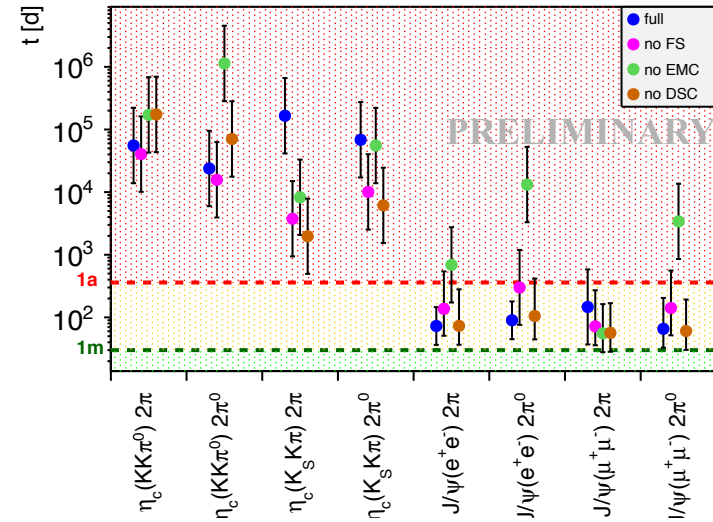
"high lumi"

Time ( $5\sigma$ ,  $N_{\text{sig}} = 1000$ ) for  $L=2 \cdot 10^{32} / \text{cm}^2 \text{s}$ ,  $\sigma_s = 1.0 \text{ nb}$ ,  $\sqrt{s} = 4.5 \text{ GeV}$



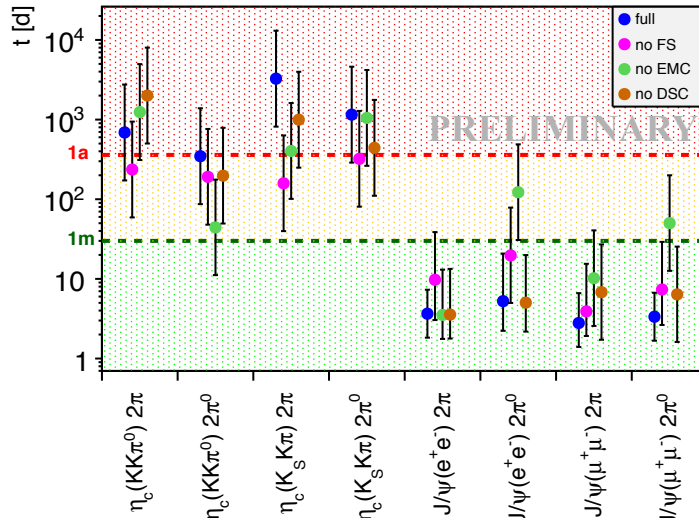
"low lumi"

Time ( $5\sigma$ ,  $N_{\text{sig}} = 1000$ ) for  $L=1 \cdot 10^{31} / \text{cm}^2 \text{s}$ ,  $\sigma_s = 1.0 \text{ nb}$ ,  $\sqrt{s} = 4.5 \text{ GeV}$

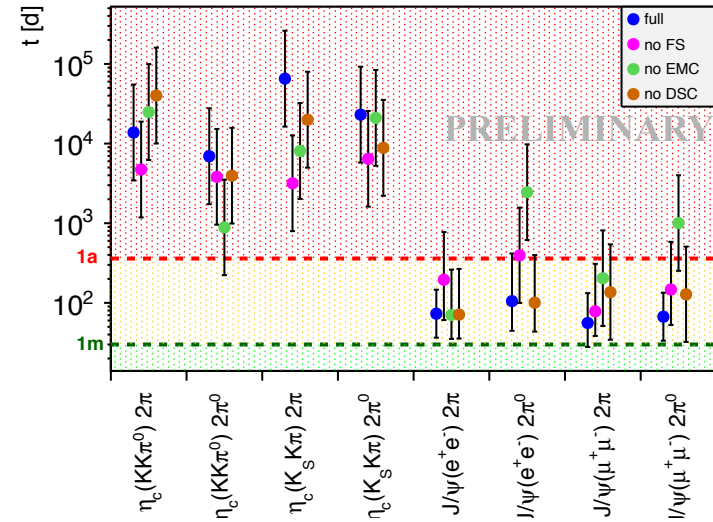


5.5 GeV

Time ( $5\sigma$ ,  $N_{\text{sig}} = 1000$ ) for  $L=2 \cdot 10^{32} / \text{cm}^2 \text{s}$ ,  $\sigma_s = 1.0 \text{ nb}$ ,  $\sqrt{s} = 5.5 \text{ GeV}$



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# Overview & compatibility

time [days]

E[GeV]	Lum/cm <sup>2</sup> s	2,00E+32				1,00E+31			
	Mode	full	no FS	no EMC	no DSC	full	no FS	no EMC	no DSC
4,5	etac1 2pi	2774,9	2022,5	8557,6	8693,5	55498,7	40449,9	171152	173869
	etac1 2pi0	1191,2	785,6	56697,6	3522,8	23823,1	15712,1	1133952	70455,1
	etac2 2pi	8285,5	187,7	413,2	98,6	165710	3754,3	8264,8	1971,3
	etac2 2pi0	3422	503,8	2770,6	307,1	68440,3	10075,9	55412,4	6142,1
	jpsi1 2pi	3,6	6,8	34,5	3,7	72,8	136,9	689	73,1
	jpsi1 2pi0	4,5	15	659,2	5,3	89,9	300	13183,3	105,1
	jpsi2 2pi	7,3	3,6	2,8	2,8	146,6	71,8	55,6	56,5
	jpsi2 2pi0	3,3	7,1	170,3	3	65,6	141,1	3405,9	60,5
5,5	etac1 2pi	688,3	236	1243,2	2002,8	13766,1	4719,7	24863,2	40056,8
	etac1 2pi0	347	191,1	44,3	197,5	6939,5	3822,3	885,2	3950,5
	etac2 2pi	3264,1	158,5	403,7	996,4	65282,8	3169,5	8074,7	19928,3
	etac2 2pi0	1153,8	321,7	1049,8	441,9	23075,9	6433,3	20996,8	8837,1
	jpsi1 2pi	3,7	9,7	3,5	3,6	73,1	194,9	70,5	71,3
	jpsi1 2pi0	5,3	19,7	122,5	5	105,1	394,6	2449,8	100,6
	jpsi2 2pi	2,8	3,9	10,2	6,8	55,9	78,3	203,9	136,2
	jpsi2 2pi0	3,3	7,4	50,1	6,4	67	147,1	1002,5	127,8

# Summary & Outlook

- **FastSim tools provided („final“ version)**
- **Extraction of FoM proposed (significance)**
- **Analysis of channels involving two relevant charmonia started**
- **Provide comparable overview of feasibility**  
→ *physics channel, detector setups, FoM vs. time*

## Outlook:

- complete studies started
- extend to more recoils
- define further FoM