

RETROSPECT:

Doctorate work(-load) agenda (26.04.19) for Philipp Hacker

Priority	Possible Due Date	Topic
high	end of July/August 2019?	<ul style="list-style-type: none">→ correlation analysis for channel selection (specifically for XPID: 20171207.022/.024);→ find best channel/selection or combination of channels from any camera to suit the total radiated power loss the best (limited to one-three single experiments/discharges)→ localisation of radiation in SOL/edge seeded cases, see QSQ - thermal gas beam;→ spatial sensitivity of QSB system see $n_e(P_{\text{rad}})$, $P_{\text{rad}}(n_e)$→ interpretation in tandem with improved Thomson scattering profiles from Minerva and impurity content radiation/oxygen;→ based off of intrinsic impurities, see HEXOS maybe? relative intensities→ $n_e + \Delta n_e \Rightarrow P_{\text{rad}} + \Delta P_{\text{rad}}$;? : need to look at ΔN_{H2}?
medium – high?	see above	<ul style="list-style-type: none">→ analyse localisation of impurity seeding and hence radiation position/sensitivity of QSB;? : transport comparison/analysis with STRAHL, EMC3 (somebody already on it?)
medium – high?	end of August 2019?	<ul style="list-style-type: none">→ finish RSI paper scrap with images, graphs, references;→ finally add feedback system integration;? : show preliminary experimental achievements? document the timing errors in of DAQ with regards to channel selection, output and laser input(s)
high	June-August 2020	<p>TOMOGRAPHY</p> <ul style="list-style-type: none">→ transport analysis with tomography and STRAHL or EMC3;→ comparison between different methods, e.g Minerva/minimum Fischer regularization etc.;→ implementation of findings from channel correlation to inversion, see whether the amount or channel distribution/geometry is efficient
low	???	<ul style="list-style-type: none">→ investigate on the different impact of extrinsic impurity seedings from thermal gas beam injection (QSQ);→ localisation of different impurities, their radiation and impact on density changes→ set up database to maybe find common/individual scaling laws in tandem with relation to n_e, W_{dia}, P_{EXRH} etc.
none – very low	???	<ul style="list-style-type: none">→ D.Zhang already assembling a database for $P_{\text{rad}}(\text{SOL})$ and $P_{\text{rad}}(\text{core})$ in relation to n_e, W_{dia}, P_{EXRH} etc.;→ possible semi experimental scaling laws governing the impact of fueling by different gas species and injection methods, as well as with respect to configuration magnetic field strenght etc.