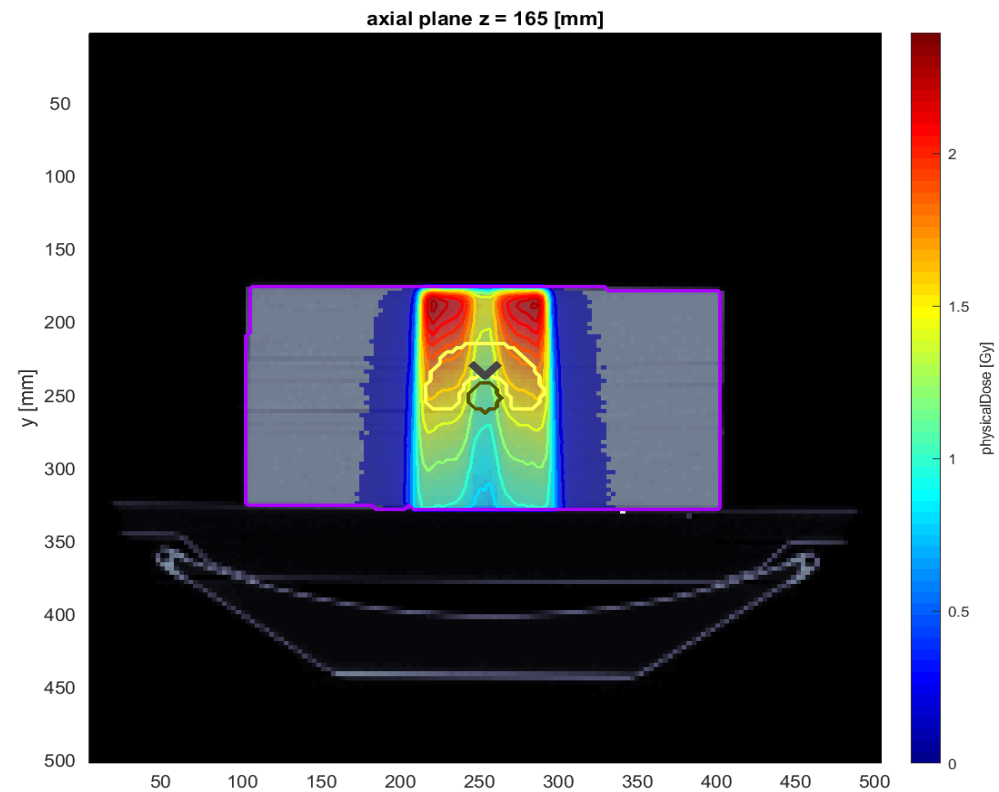


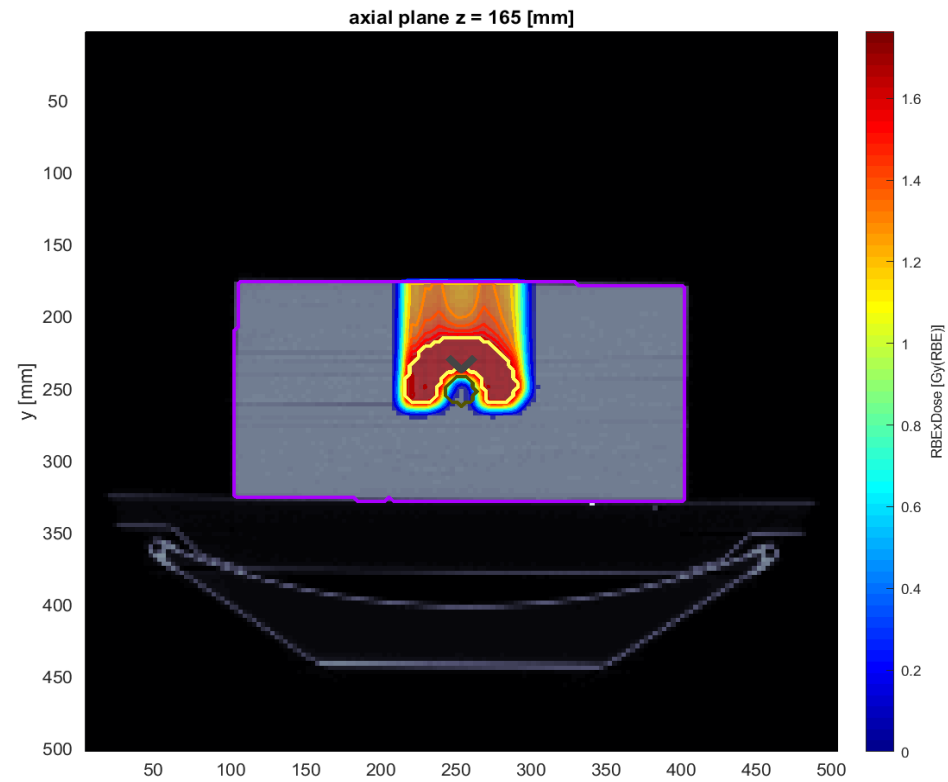
MAT RAD EDUCATIONAL

GIANNIS PANTOLEON-ΓΙΑΝΝΗΣ ΠΑΝΤΟΛΕΩΝ

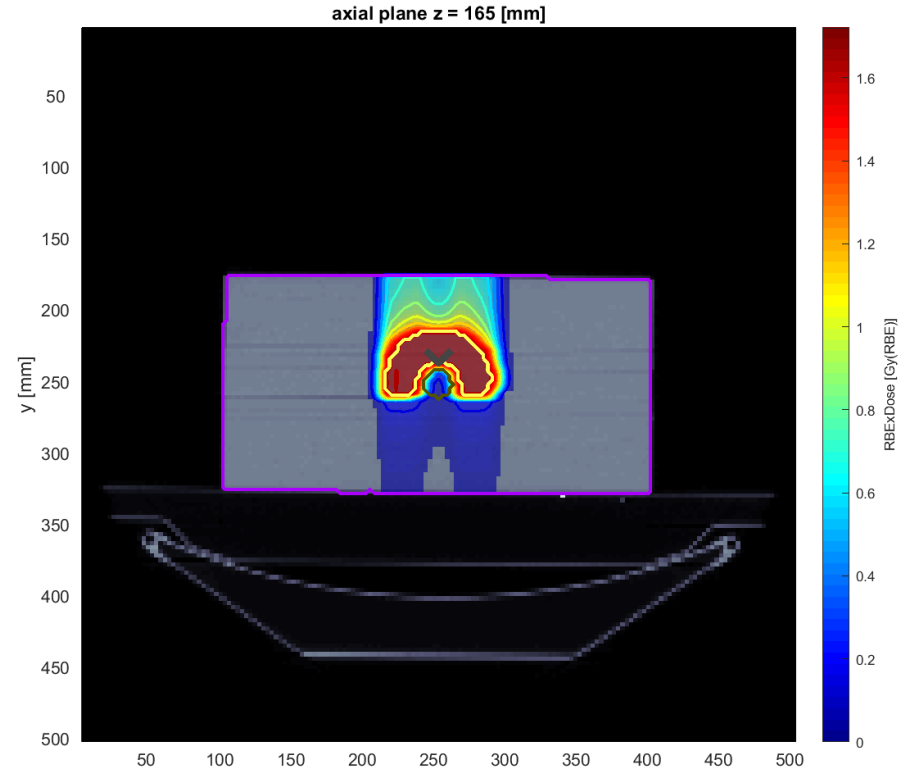
CASE: C PHANTOM TG119 [photons]



CASE: C PHANTOM TG119 [protons]



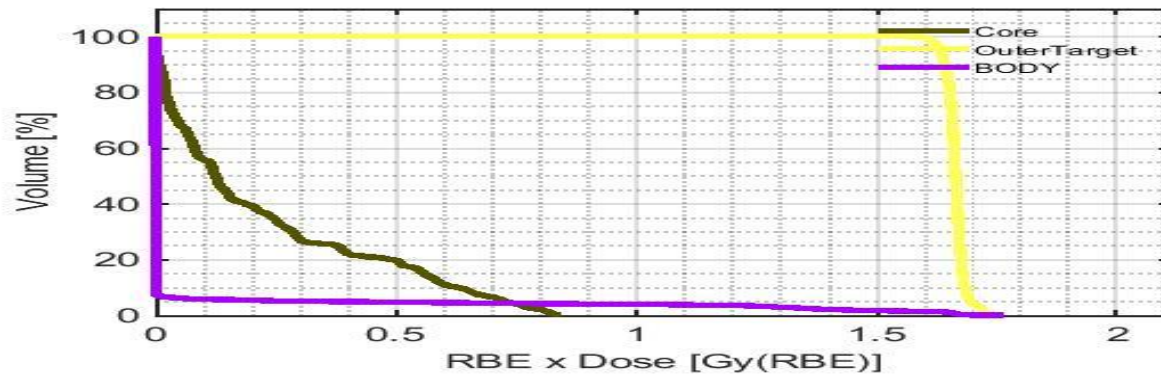
CASE: C PHANTOM TG119 [carbon ions]



What is this method`s target?

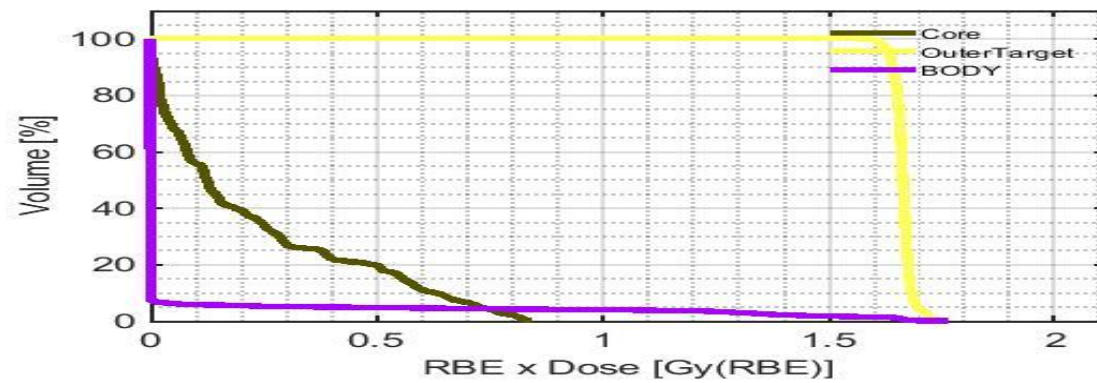
- ▶ The target is to radiate in and through the regions, where cancerous cells may lie with the biggest dose of radiation possible, without affecting healthy tissues.

RESULTS: Photons



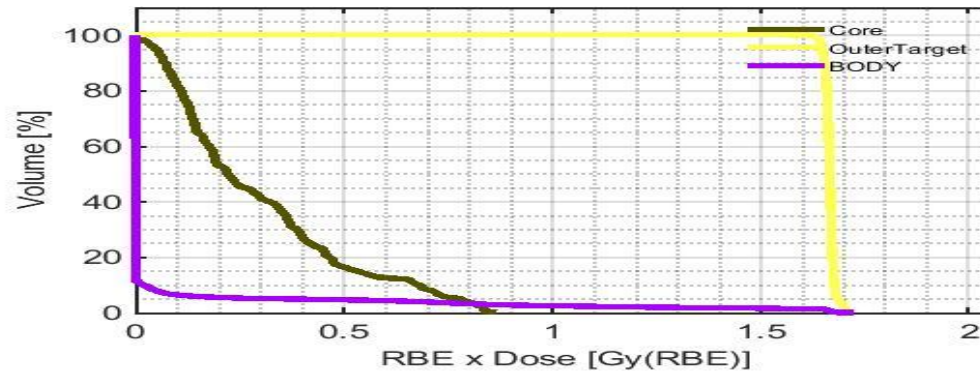
	max	min	mean	std
Core	0.8461	0	0.2259	0.2391
OuterTarget	1.7643	1.5599	1.6652	0.0201
BODY	1.7643	0	0.0652	0.2890

RESULTS: Protons



	max	min	mean	std
Core	0.8461	0	0.2259	0.2391
OuterTarget	1.7643	1.5599	1.6652	0.0201
BODY	1.7643	0	0.0652	0.2890

RESULTS: Carbon Ions



	max	min	mean	std
Core	0.8668	0.0056	0.2975	0.2199
OuterTarget	1.7224	1.5684	1.6659	0.0117
BODY	1.7224	0	0.0582	0.2550

Comparing my Results

- ▶ In these three charts we can observe that GTV, PTV and CTV regions which are the target regions, absorb the biggest dose of radiation. Radiating with protons is not as penetrative as the two other methods, even healthy tissue receives radiation.
- ▶ Conclusively, the proton and heavy ion methods are suggested more because the patient has the least side effects that are possible.