



nuSTORM phone meeting updates

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Transport line updates

- 1 Expanding the straight line after 1st dipole in the transport beam line
 - Current length is ~ 8 meters. From engineering point of view this needs to be expanded to around 16 meters, to fit the enclosures of the proton absorber and the ring. (Keep them further apart from each other)
- 2 Consider adding another dipole for residual protons to bend them further apart.
- 3 Also need to consider the field from the quadrupole just after the 1st dipole. How fast the field can drop radially apart from the bore needs to be studied.



Optics matching tools

- 1 **MAD8 and MADX**
 - MAD8 can allow users to change elements lengths, but doesn't allow constraints on user defined variable; MADX does the opposite way, which is still not useful in our case. (We want to vary the element lengths to expand the total length to at least some certain value.)
- 2 **Started to work on genetic algorithm (GA) and apply it to matching. It's much faster and efficient in searching optimal solutions in decision making. Codes will be written in MATLAB. Still developing and need some time.**



Decay ring design

1 Start to match from Straight to Arcs

Keep symmetric optics or not? Need comparison. I will look for a match to symmetric version. The straight optics is already shared with Alex Bogacz during my visit at Jlab. Now Alex will talk about his idea on a different ring option.