

The Early Universe: A Window to New Physics, U Florida, 10/21/2023

Discussion session

Evolution of gauge string network – critical for obtaining constraints from PTA.

Nambu-Goto simulation 1 – loop distribution with “standard” form.

Nambu-Goto simulation 2 -- loop distribution as per Polchinski-Rocha.

Field theory simulation – no oscillating loops.

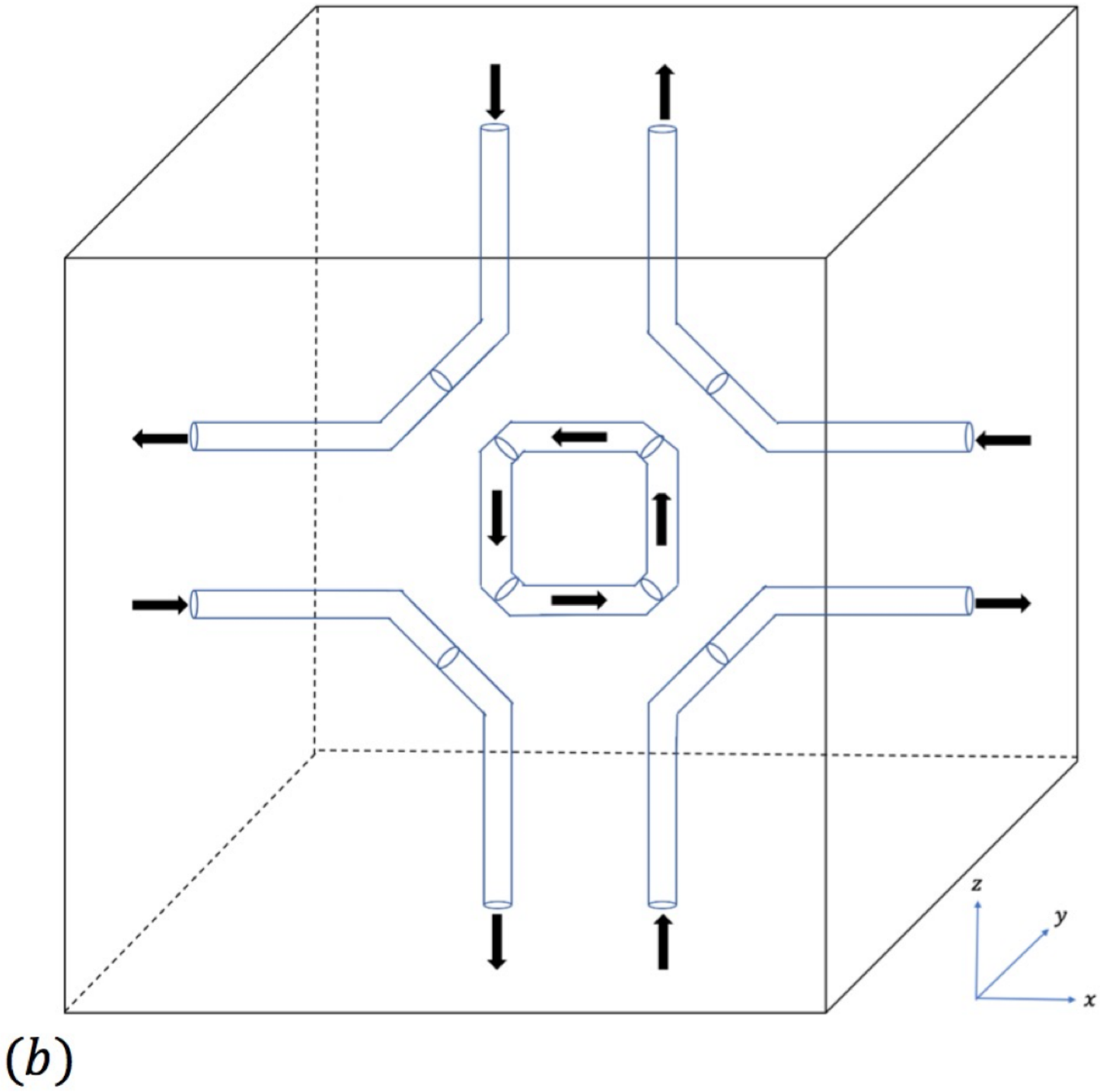
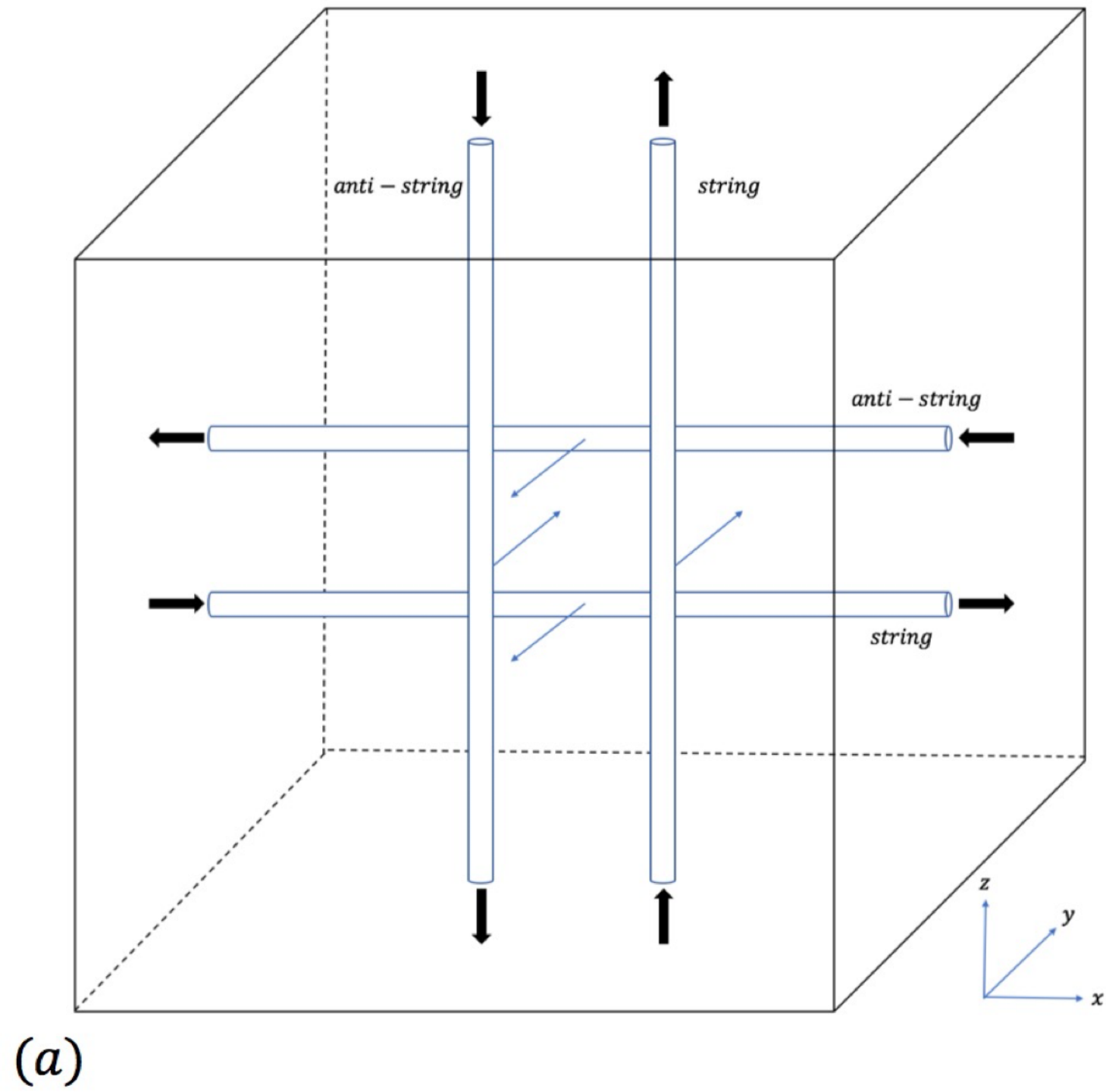
Evolution of global string network – critical for axion distribution and constraints.

Evolution of topological defects – including interactions of defects.

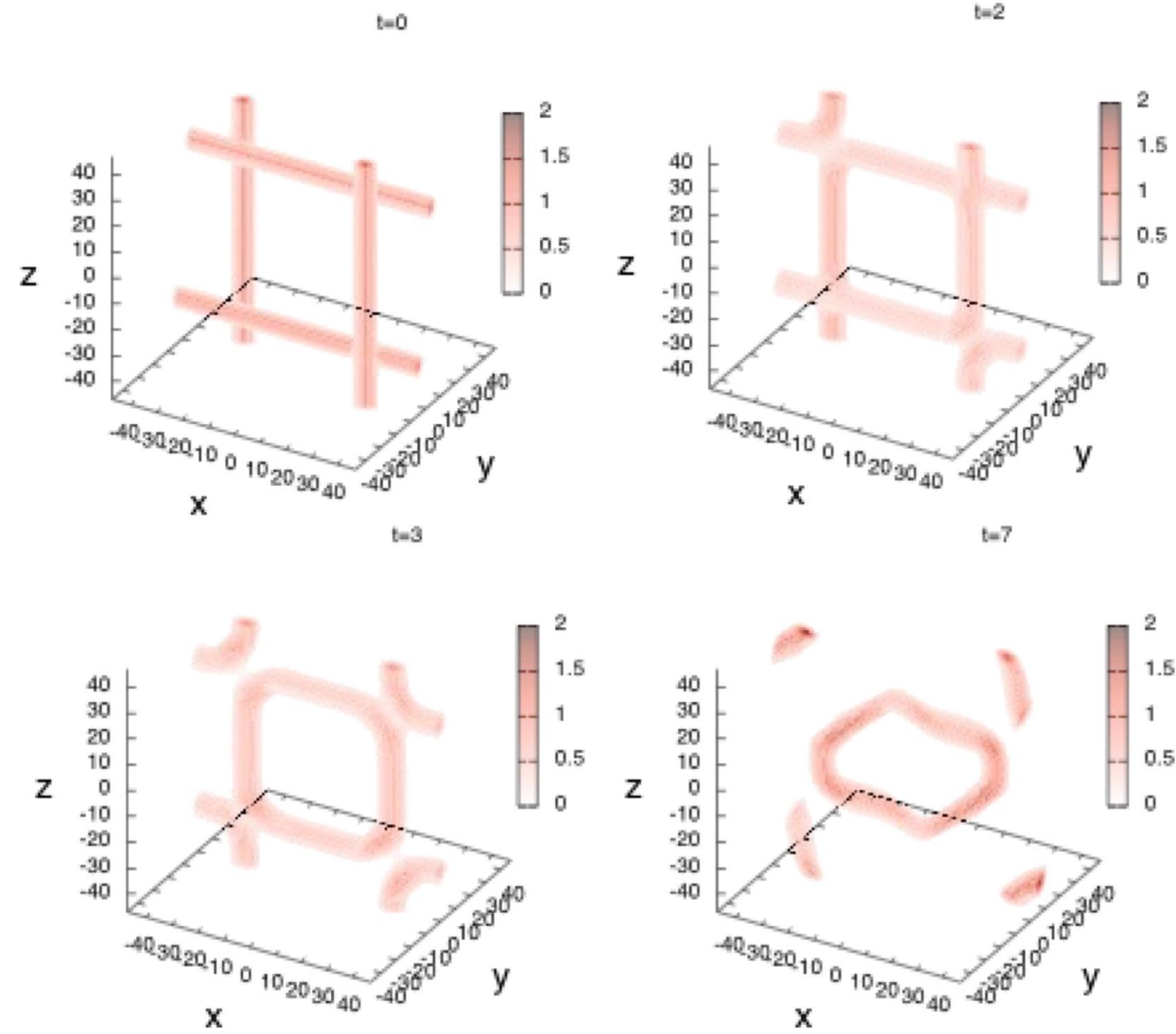
Matsunami et al, 2019

Making a loop

Slides from Levon Pogosian

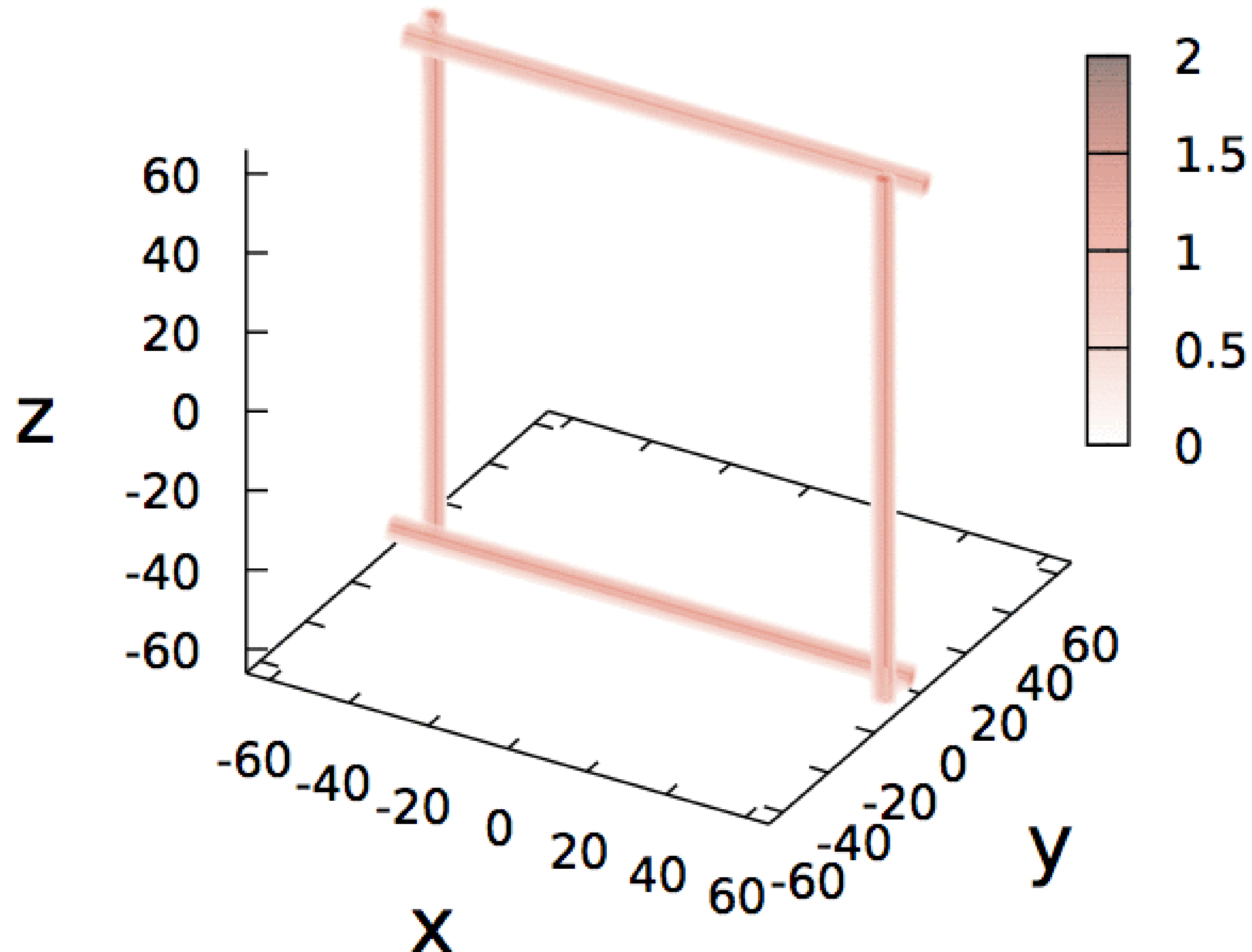


Making a loop



$t=0$

Gauge string loop



Hagmann & Sikivie, 1991;
Saurabh, Pogosian & Vachaspati, 2020
Baeza-Ballesteros et al, 2023
Network simulations by several groups.

Global string loop

