

**Session:** Hands-on primer on Sequences (Design) for Mapping  
**Educational Track 2:** From Hardware to Map

# Pulseq for mapping

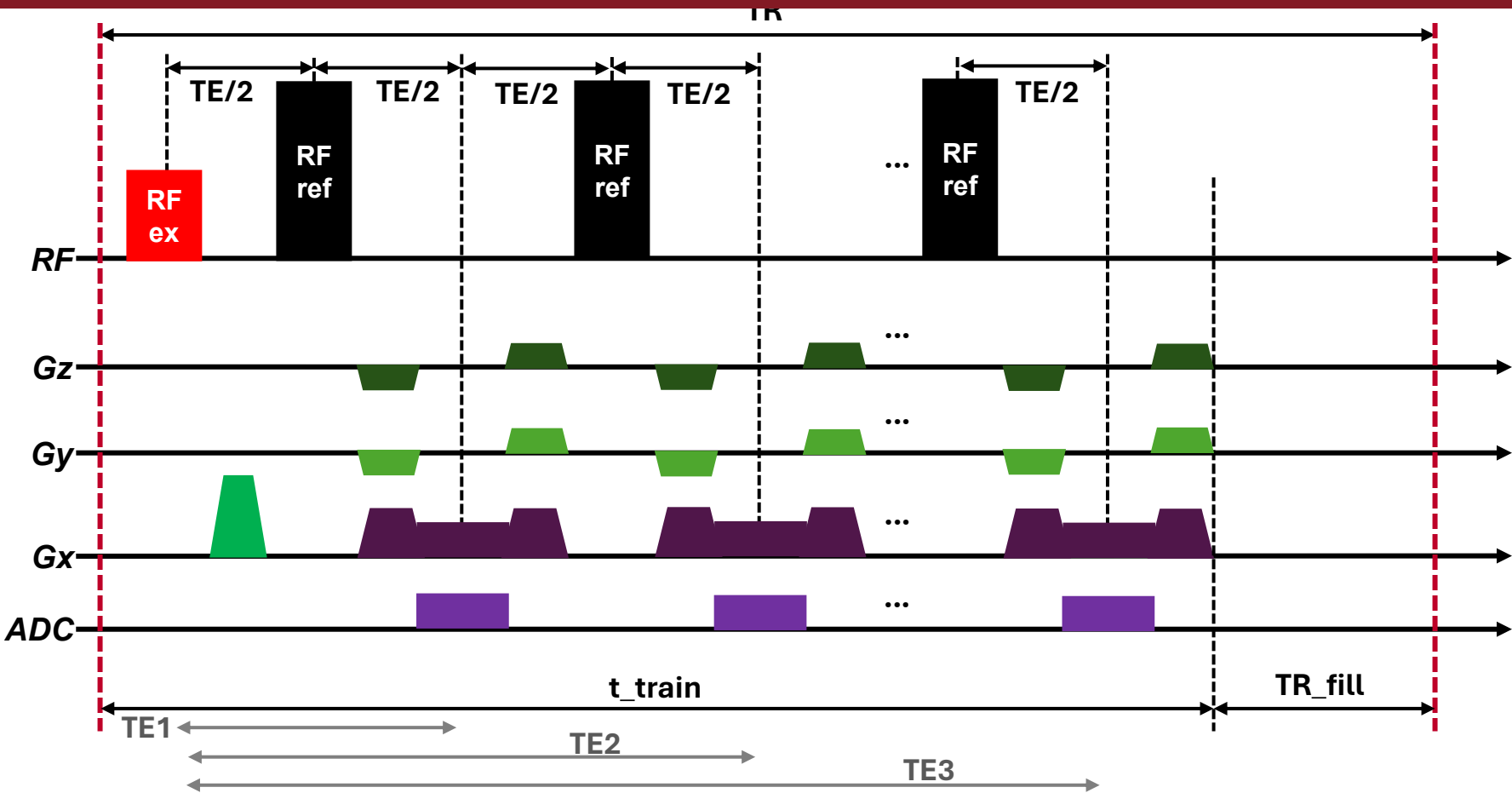
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# T2 mapping (s20\_from\_3d\_se\_to\_3d\_mse)



# T1 mapping (s30\_2D\_IR\_SE\_T1mapping)

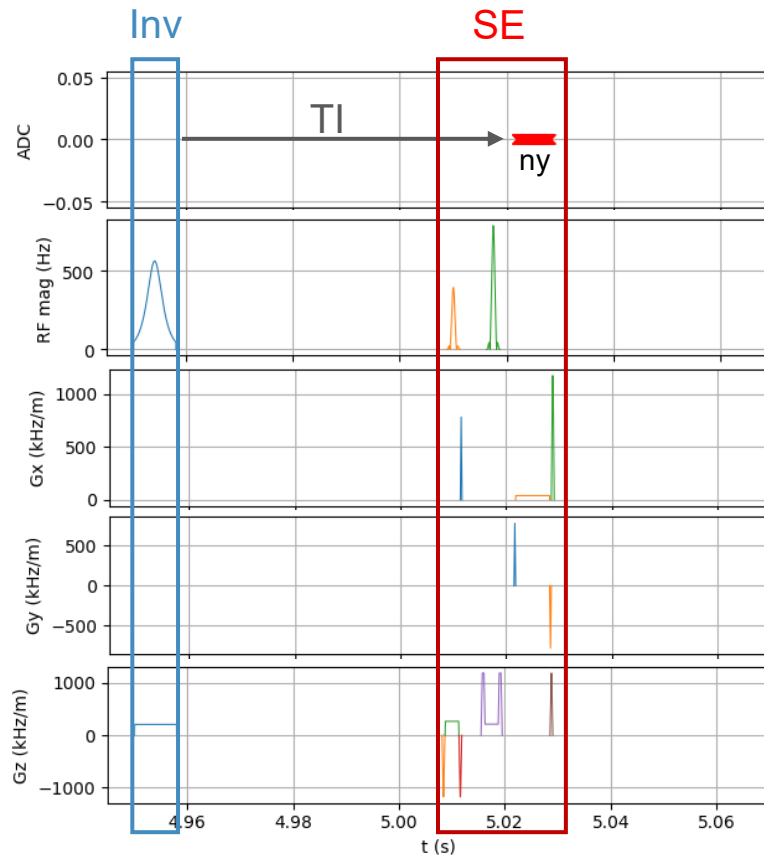
Sample the longitudinal magnetization  
recovery curve for T1 mapping

## Inversion recovery SE

(one k-space line per inversion)

$TR > 5 \cdot T1$

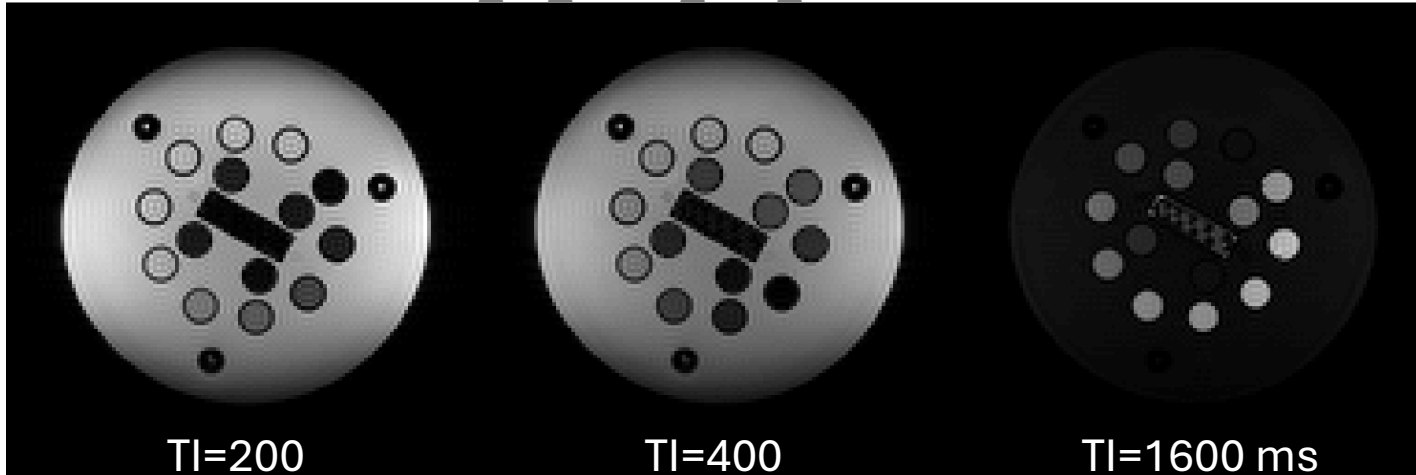
s30\_2D\_IR\_SE\_T1mapping.ipynb



# T1 mapping (s30\_2D\_IR\_SE\_T1mapping)

## Inversion recovery SE

IR\_SE\_TI200\_400\_1600.mat



~30 min

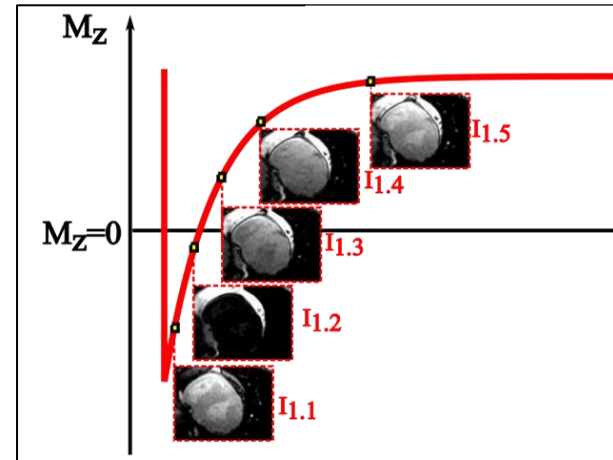
# T1 mapping

## IR SE

- Too long (>1h)

## IR GRE

- Effect of the readout in recovery curve
- Faster



# T1 mapping

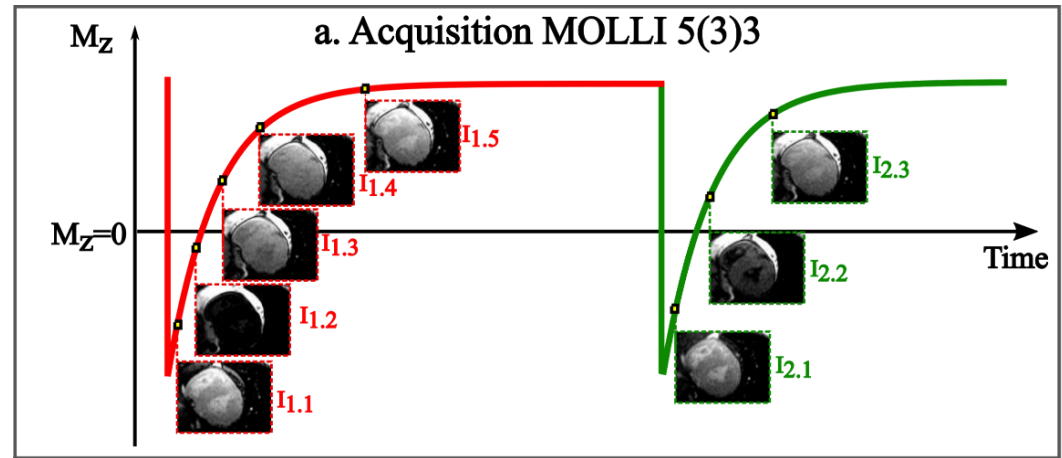
## IR SE

- Too long (>1h)

## IR GRE

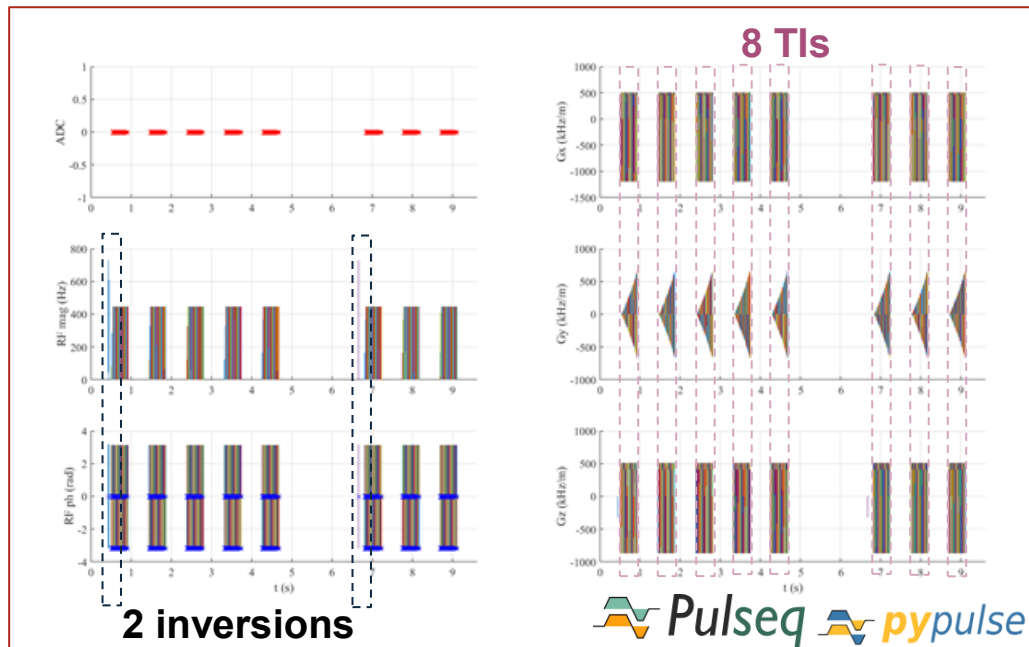
- Effect of the readout in recovery curve
- **Faster**

IR GRE and trigger for cardiac



# Open-MOLLI

Open-source myocardial **T1** mapping sequence for fast prototyping



pyOpenMOLLI.ipynb

Repository



<https://github.com/asgaspar/OpenMOLLI>

3. Gaspar AS, et al. *MRM*. 2024.

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