



# Nuovi tool per il mappaggio multipolare delle tachicardie ventricolari

Caterina Bisceglia

Responsabile Unità Avanzata di trattamento Aritmie Ventricolari

Ospedale San Raffaele-Milano

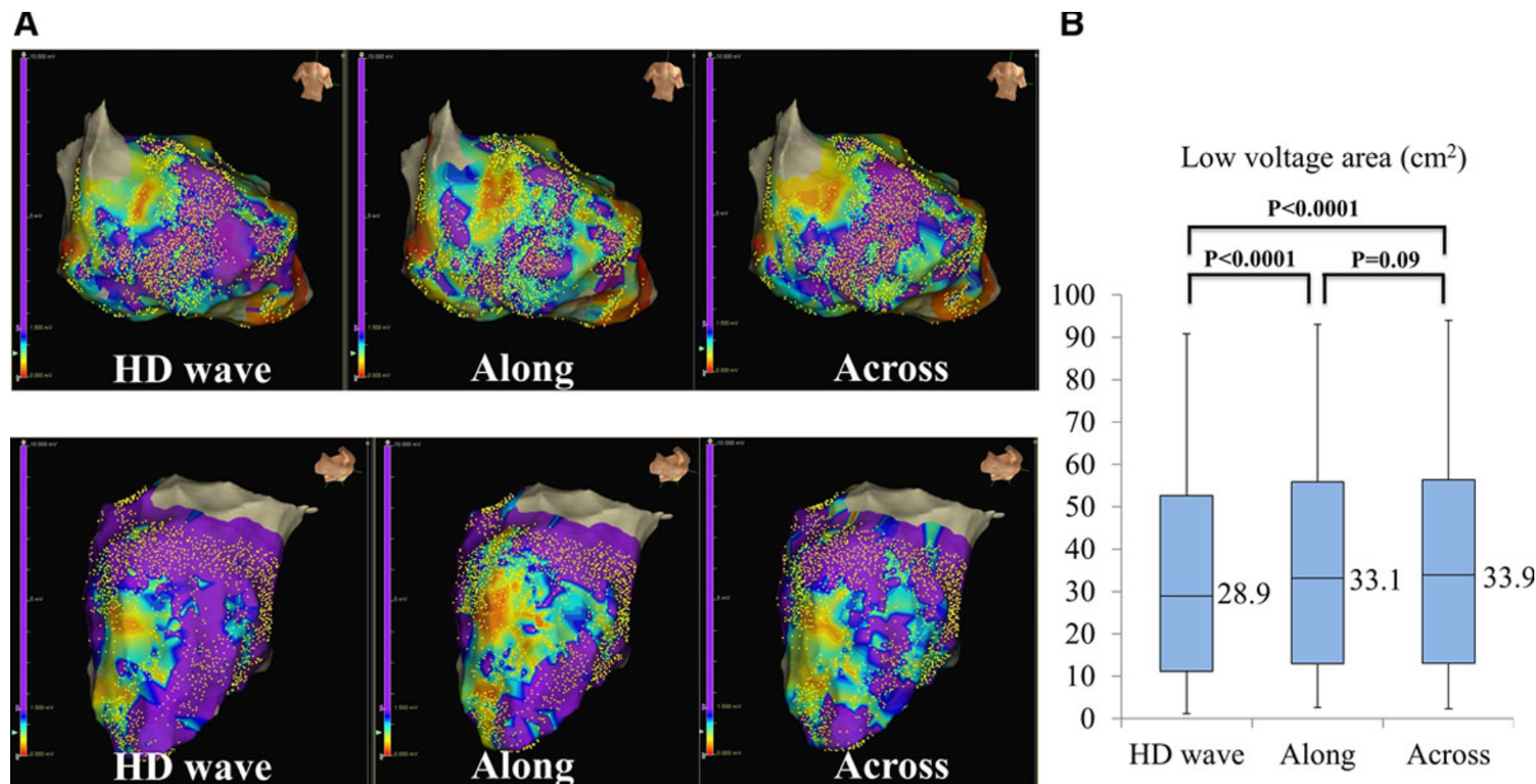
# Agenda

- Definizione della scar
- Analisi dinamica della propagazione
- Analisi di EGM complessi
- Definizione dell'istmo di rientro

# Grid Mapping Catheter for Ventricular Tachycardia Ablation

Kenji Okubo, MD<sup>\*</sup>, Antonio Frontera, MD<sup>\*</sup>, Caterina Bisceglia, MD, Gabriele Paglino, MD, Andrea Radinovic, MD, Luca Foppoli, MSc, Federico Calore, MSc, and Paolo Della Bella, MD

Okubo K, *Circ A&E*, 2019



- NEW METHOD OF CALCULATING AN ELECTROGRAM

## Omnipolar Electrograms

- (THREE ELECTRODES)

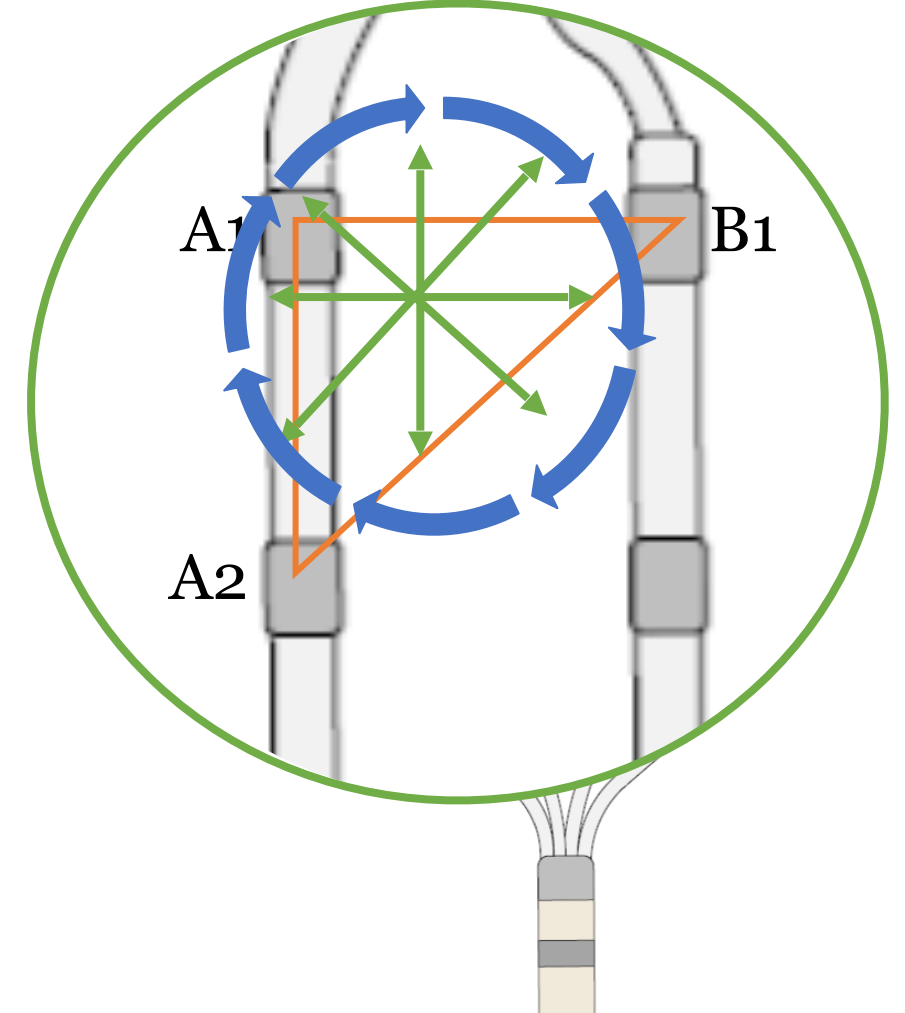
- Determined from a *clique* (triangular set of three electrodes)
- EGMs calculated in all directions (360 degrees)
- Automatic selection of EGM with maximum voltage
- Proprietary algorithm for the Advisor™ HD Grid Mapping Catheter

### ADVANTAGES<sup>1,2</sup>

- Small antenna -Local signal
- Provides wavefront direction & speed
- Catheter-wavefront orientation independent
- Instantaneous calculation

### LIMITATIONS

- Reliant upon component unipole and bipole EGM signal quality

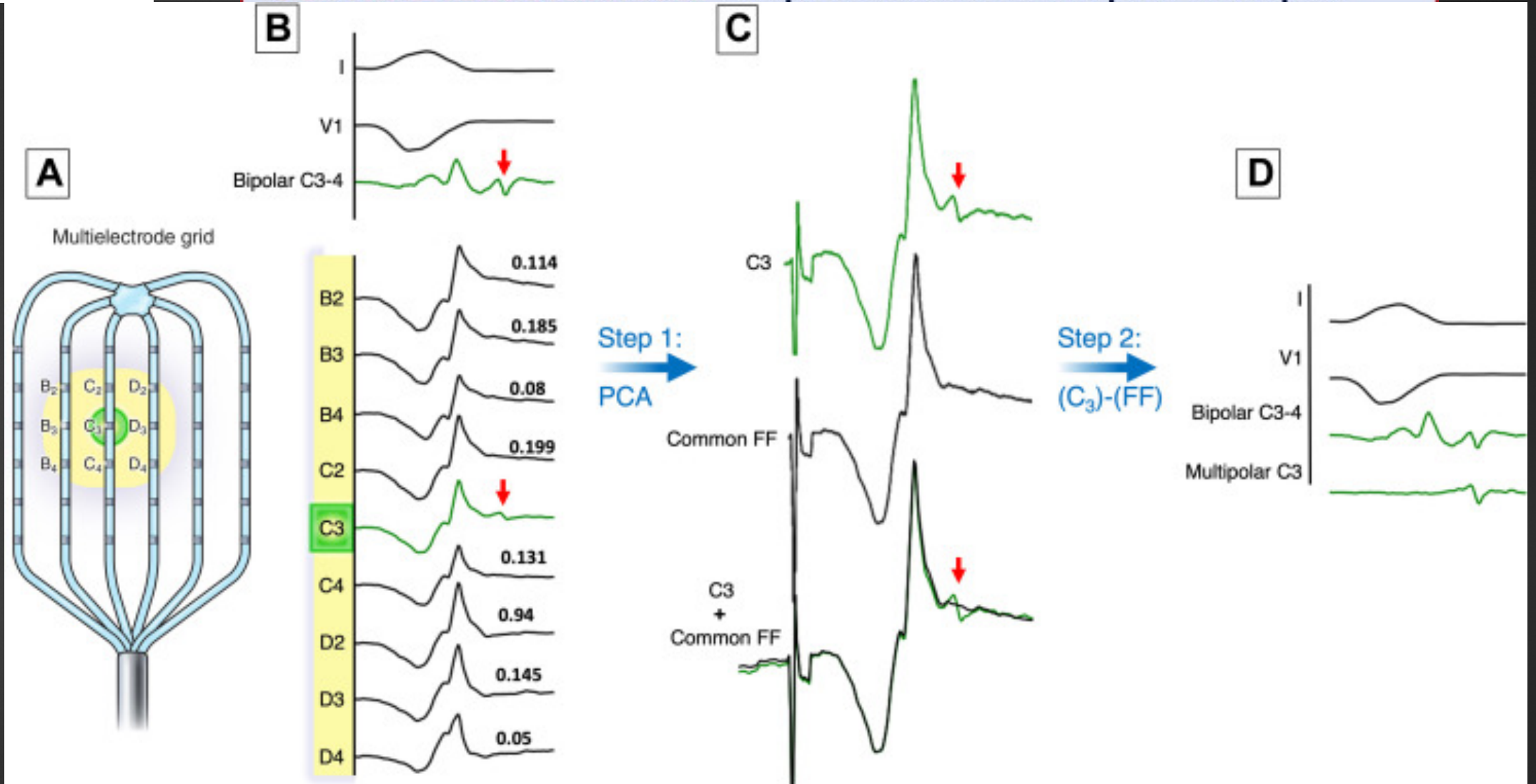




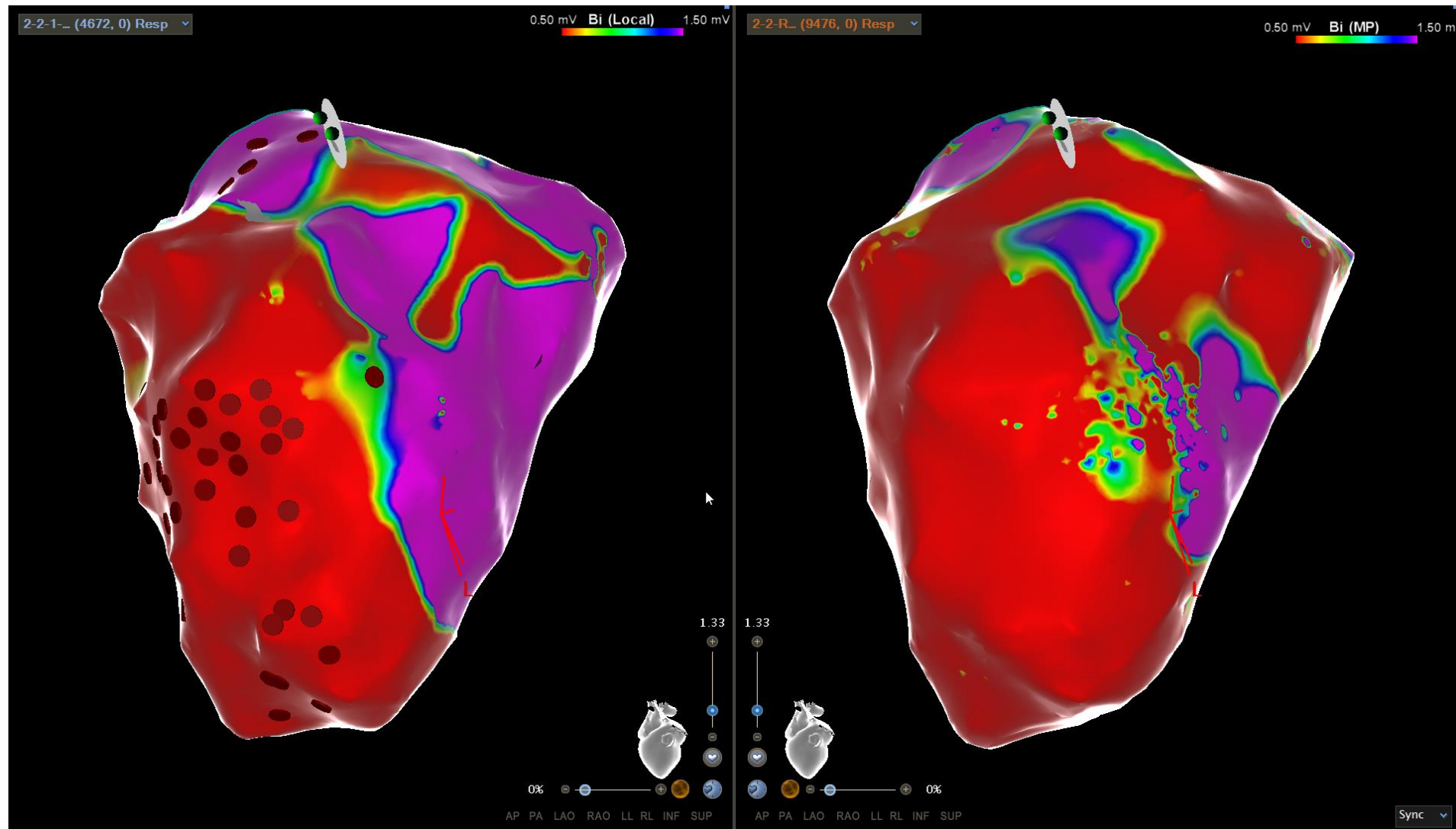
# Multipolar Electrograms: A New Configuration That Increases the Measurement Accuracy of Intracardiac Signals

Elad Anter MD <sup>a b</sup>, Ofir Brem BA <sup>b</sup>, Lior Greenbaum PhD <sup>c</sup>,  
Zachary P. Bubar BA <sup>c</sup>, Arwa Younis MD <sup>d</sup>, Hagai Yavin MD <sup>d</sup>,  
Jonathan Yarnitsky BSc <sup>c</sup>, Michael Barkagan MD <sup>a b</sup>

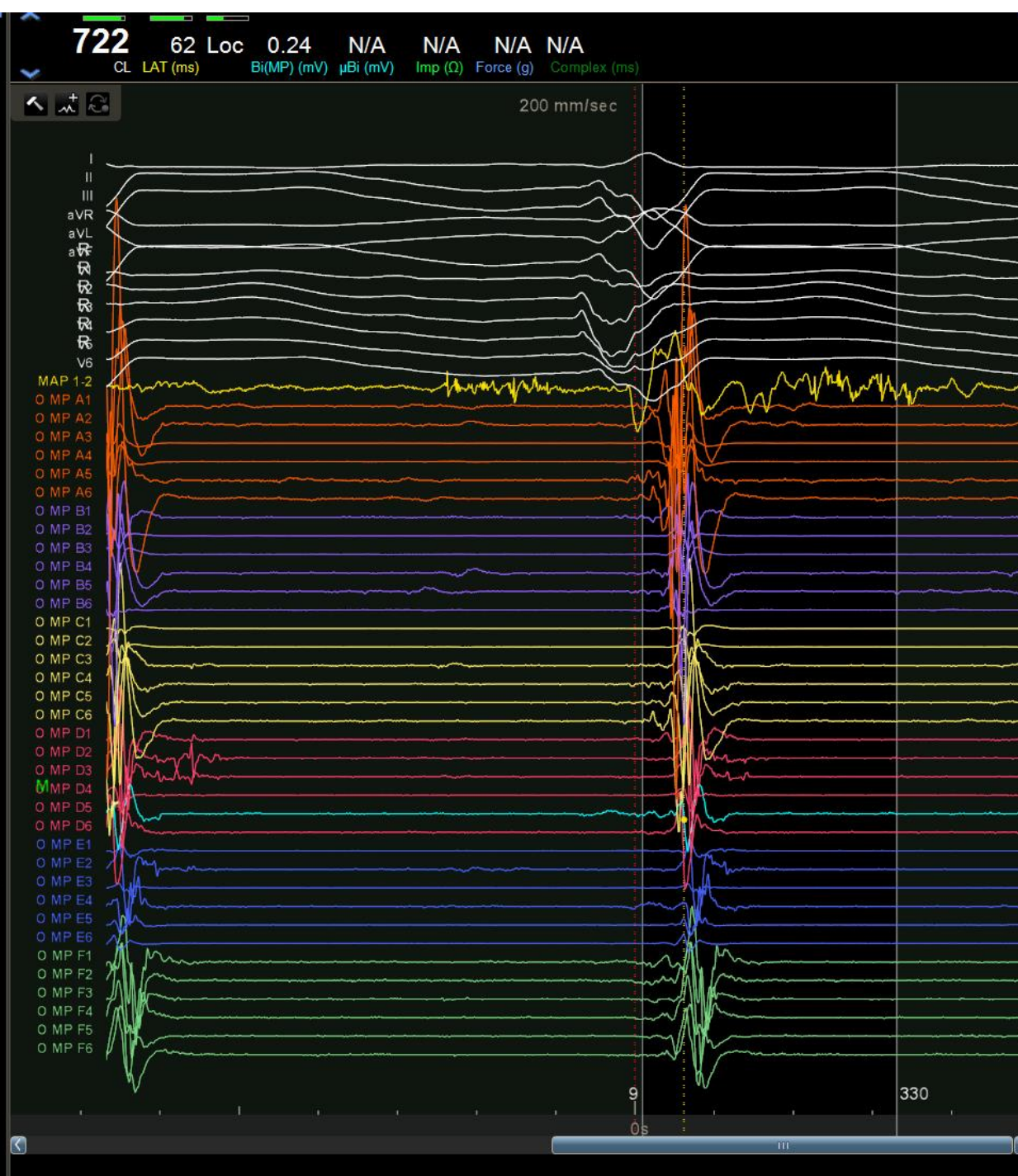
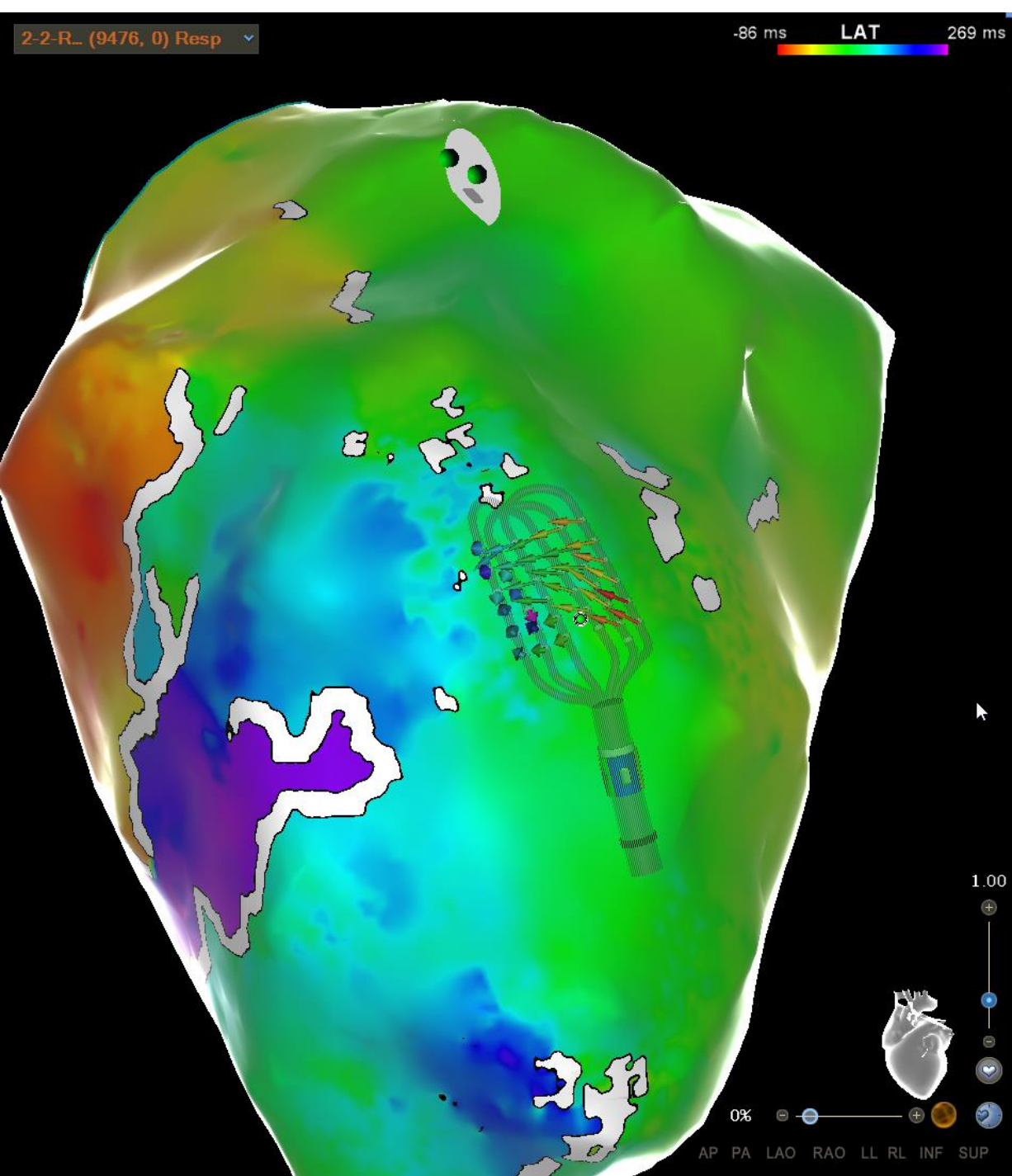
## CENTRAL ILLUSTRATION: Comparison Between Multipolar and Bipolar



# Definizione del substrato TV

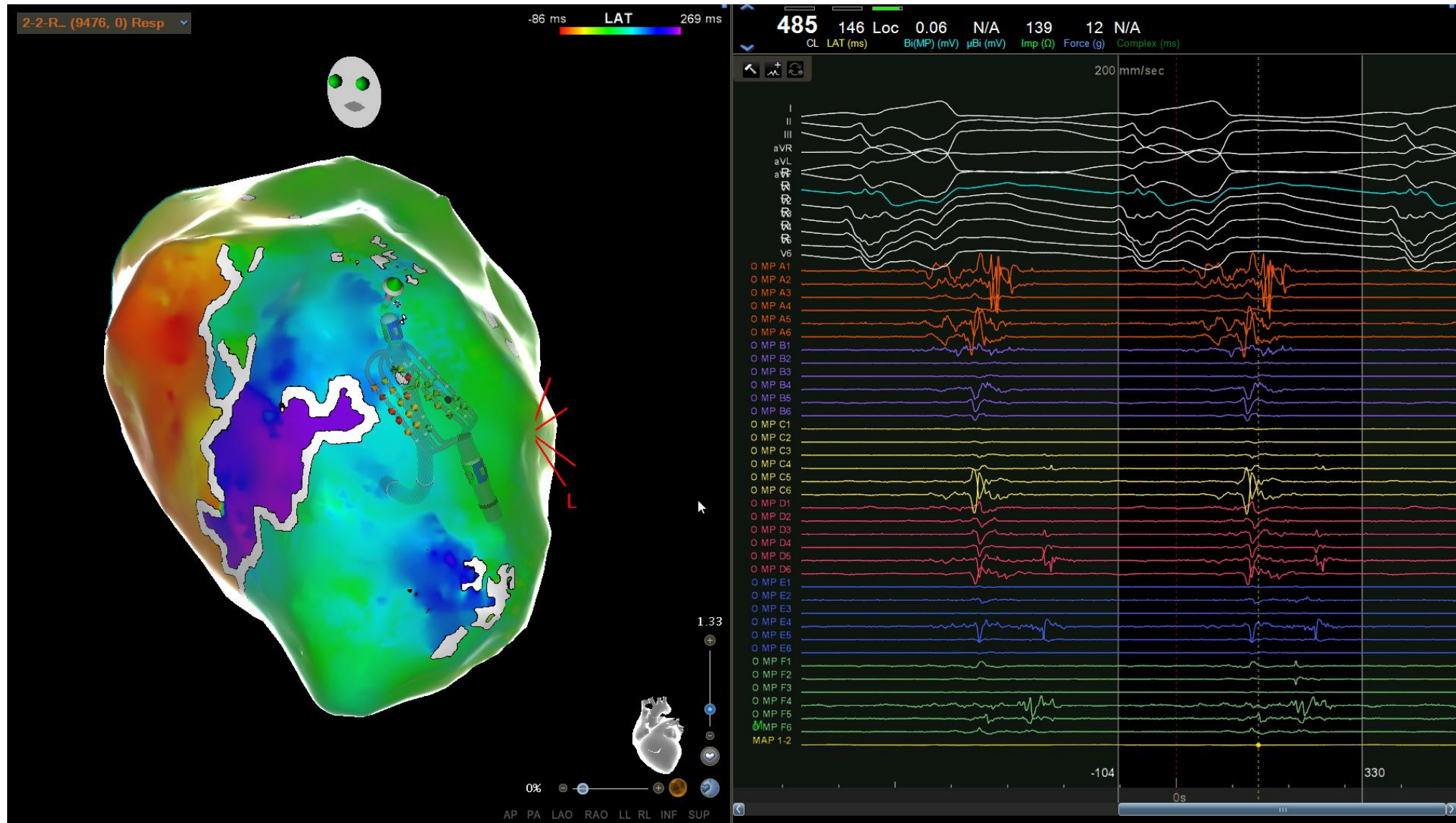




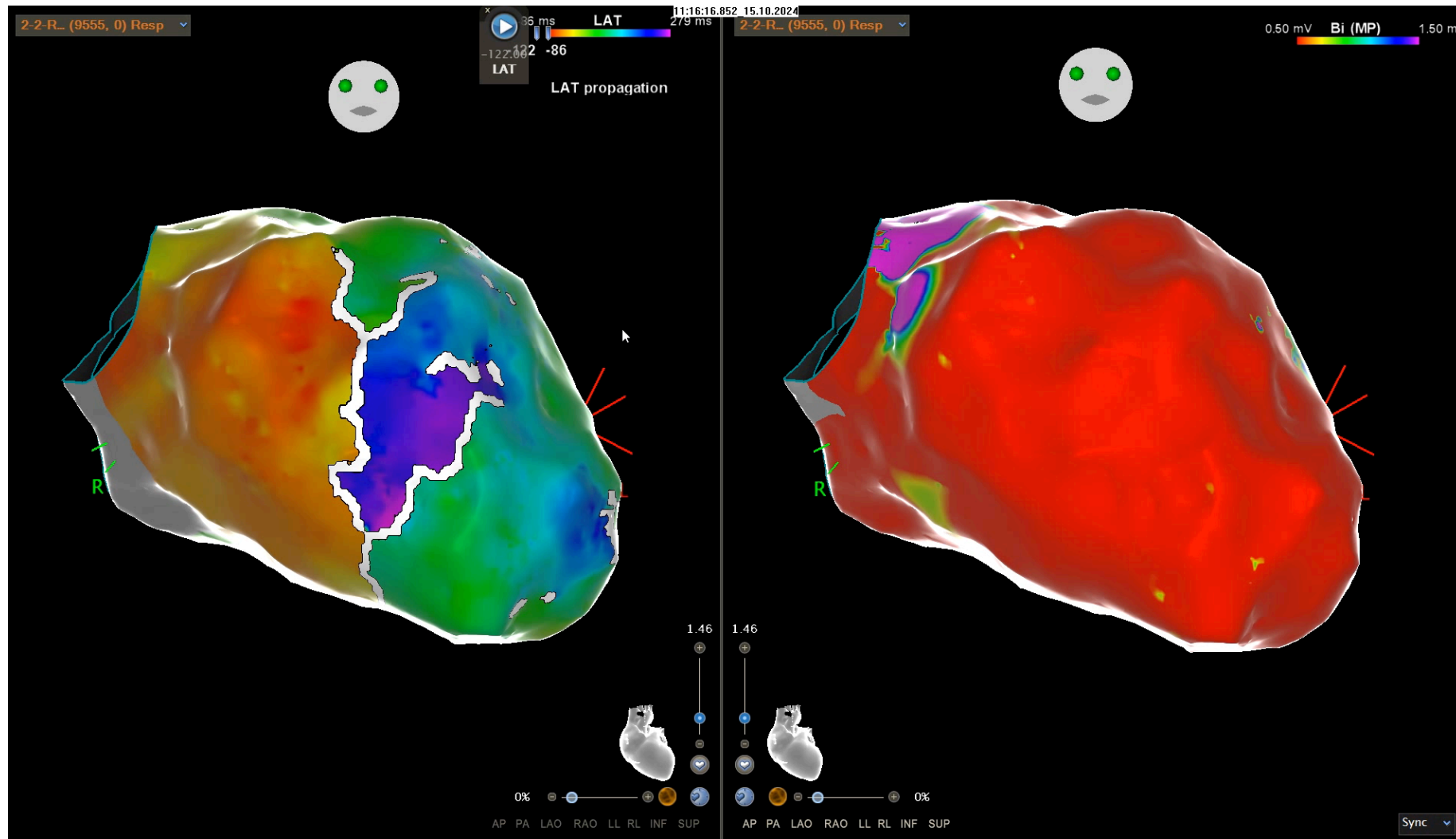




# VT istmo

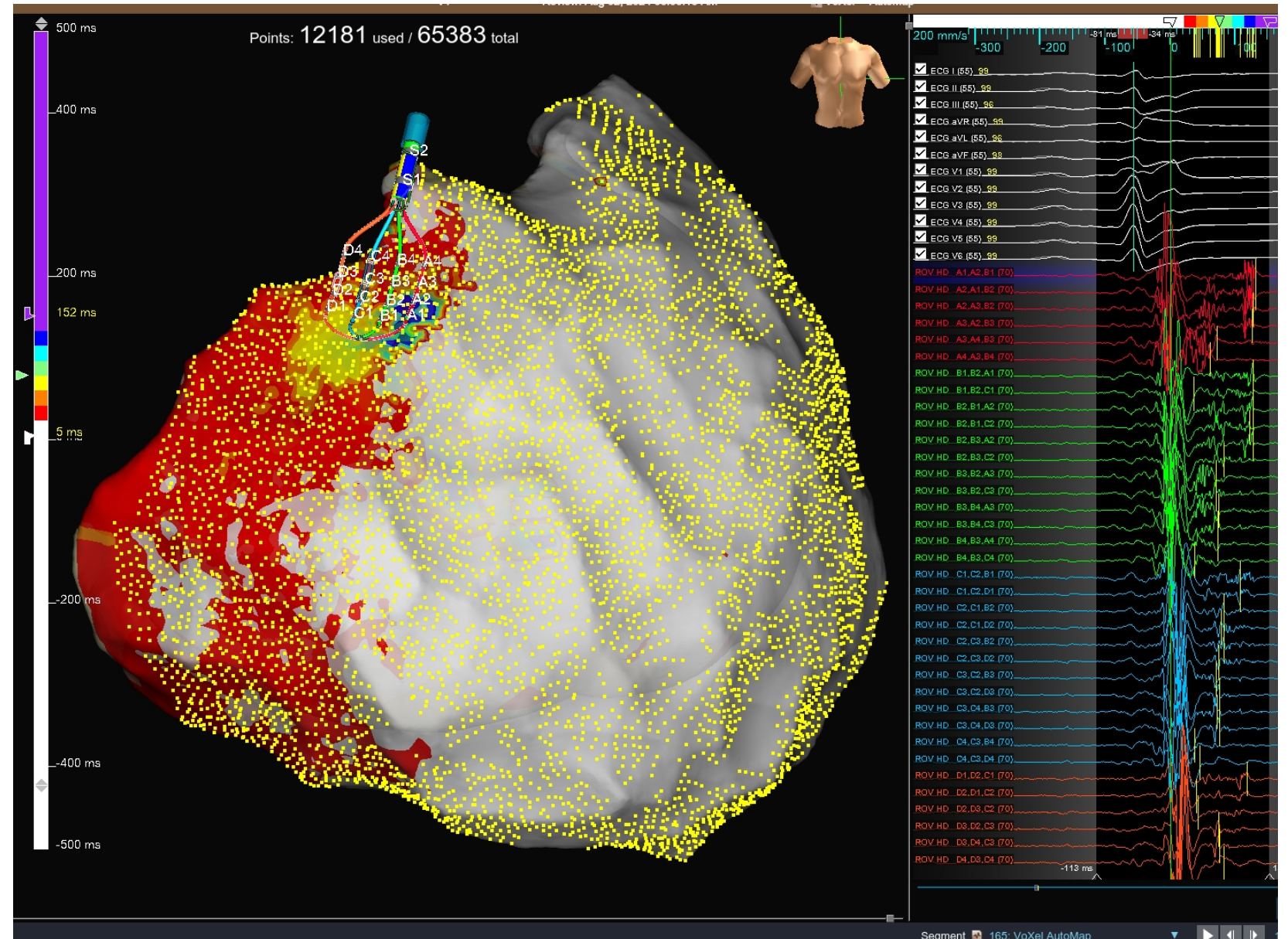
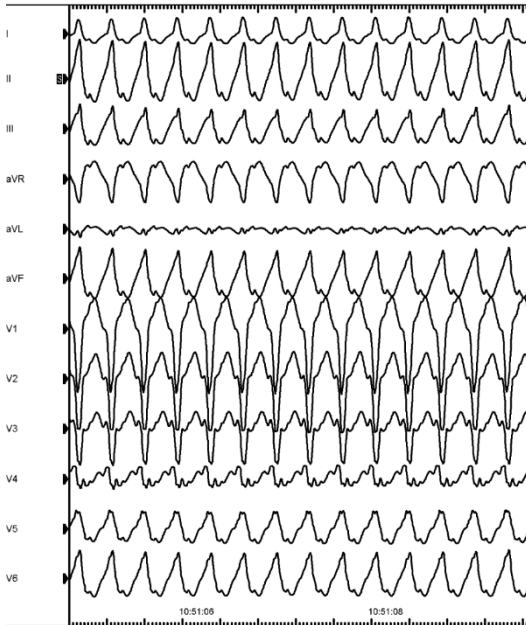


# Propagazione RS



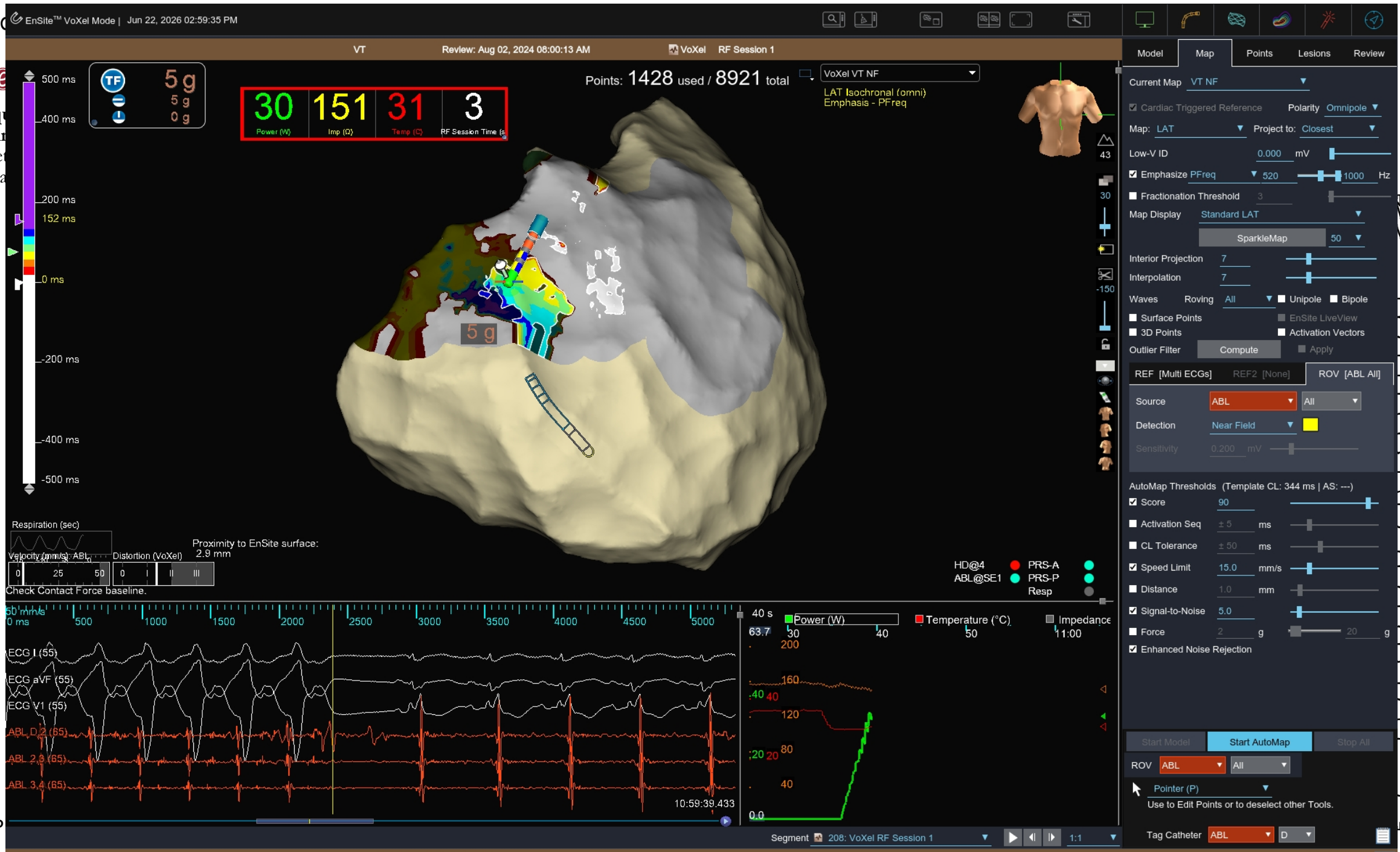


# Caso clinico



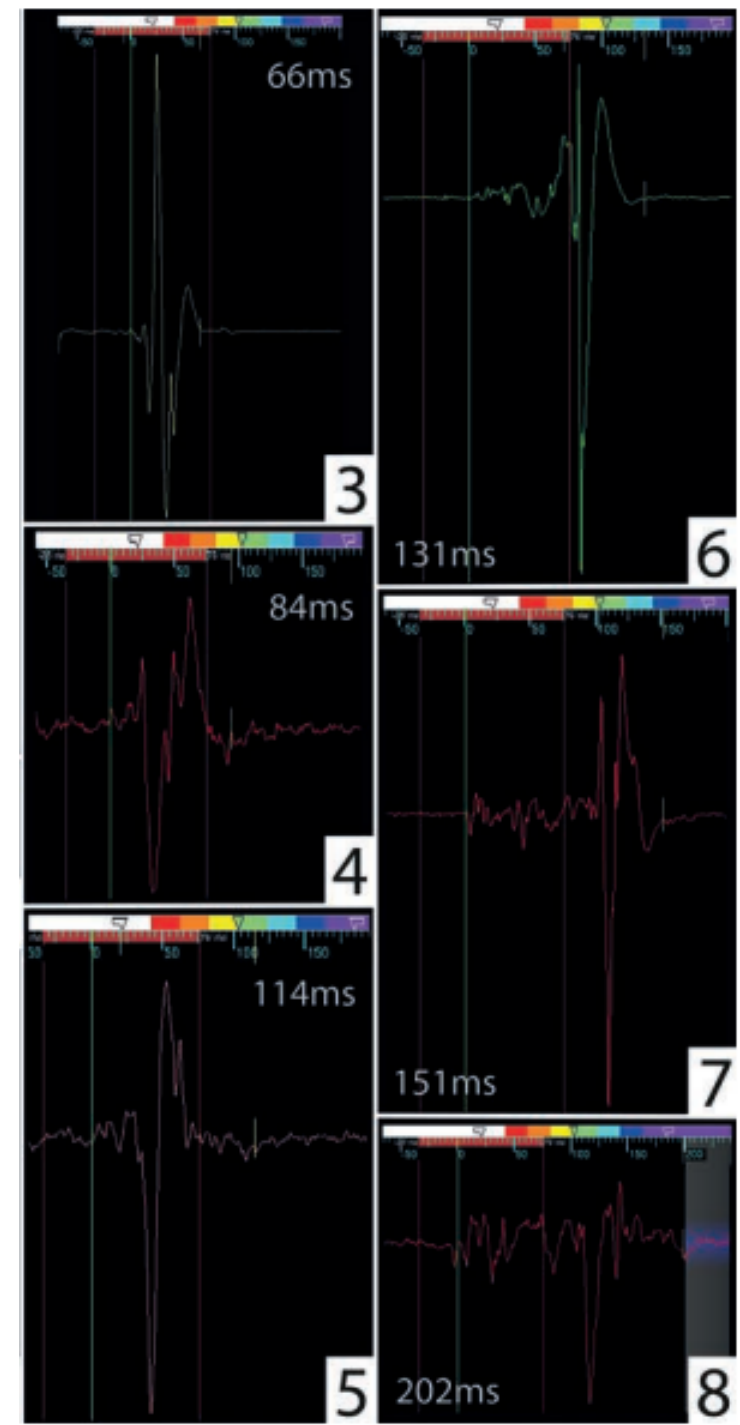
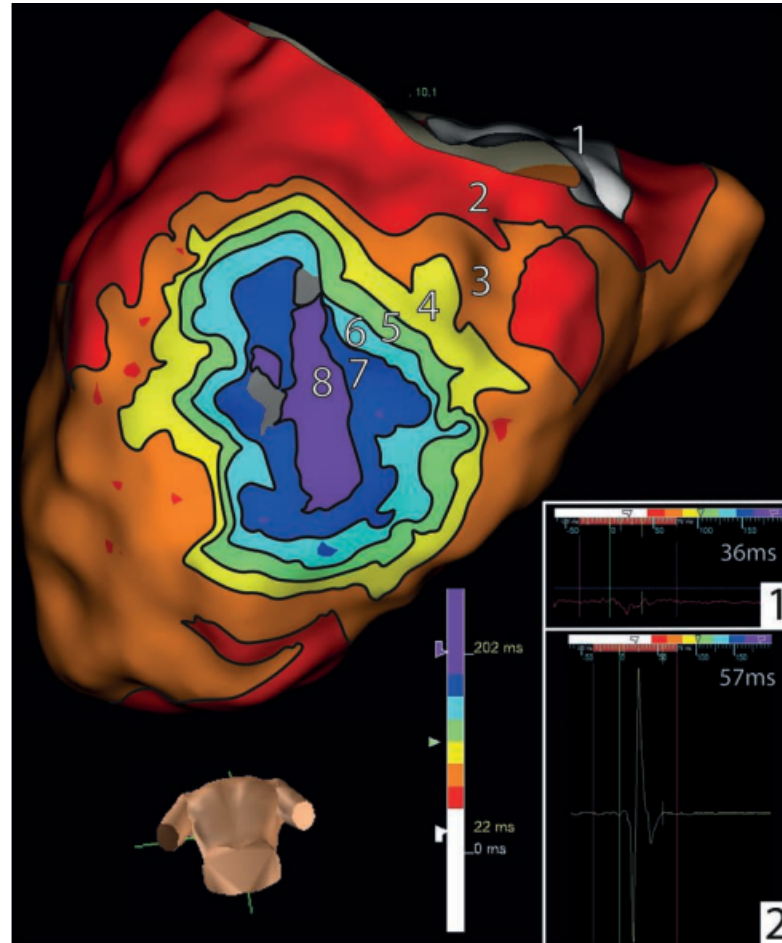


Analysis of  
ablation  
circuits  
High-frequency  
reflect vulner  
sites. Target  
VT termina



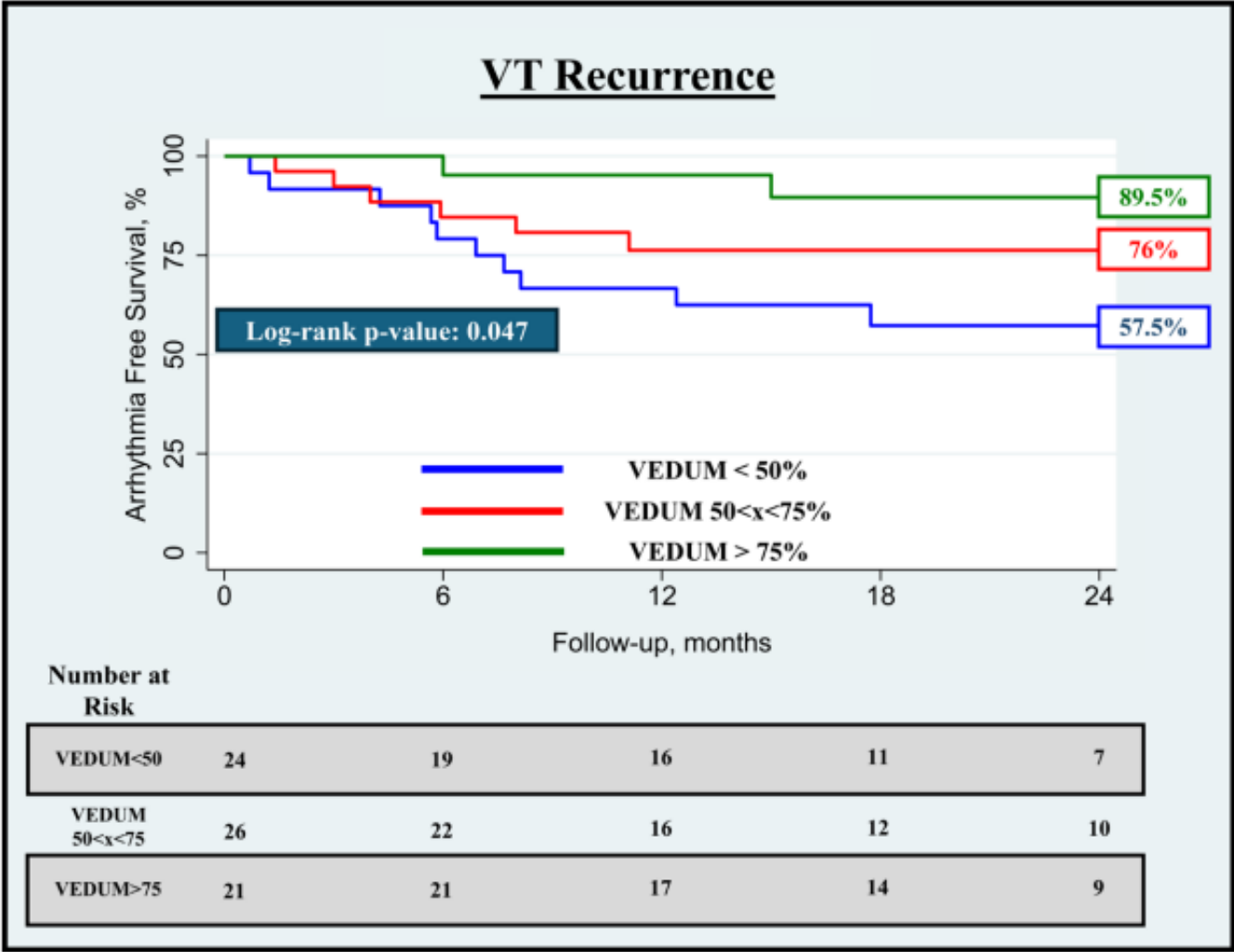
# Ventricular Electrograms Duration Map to Detect Ventricular Arrhythmia Substrate: the VEDUM Project Study

Rossi F, Circ A&E, 2023



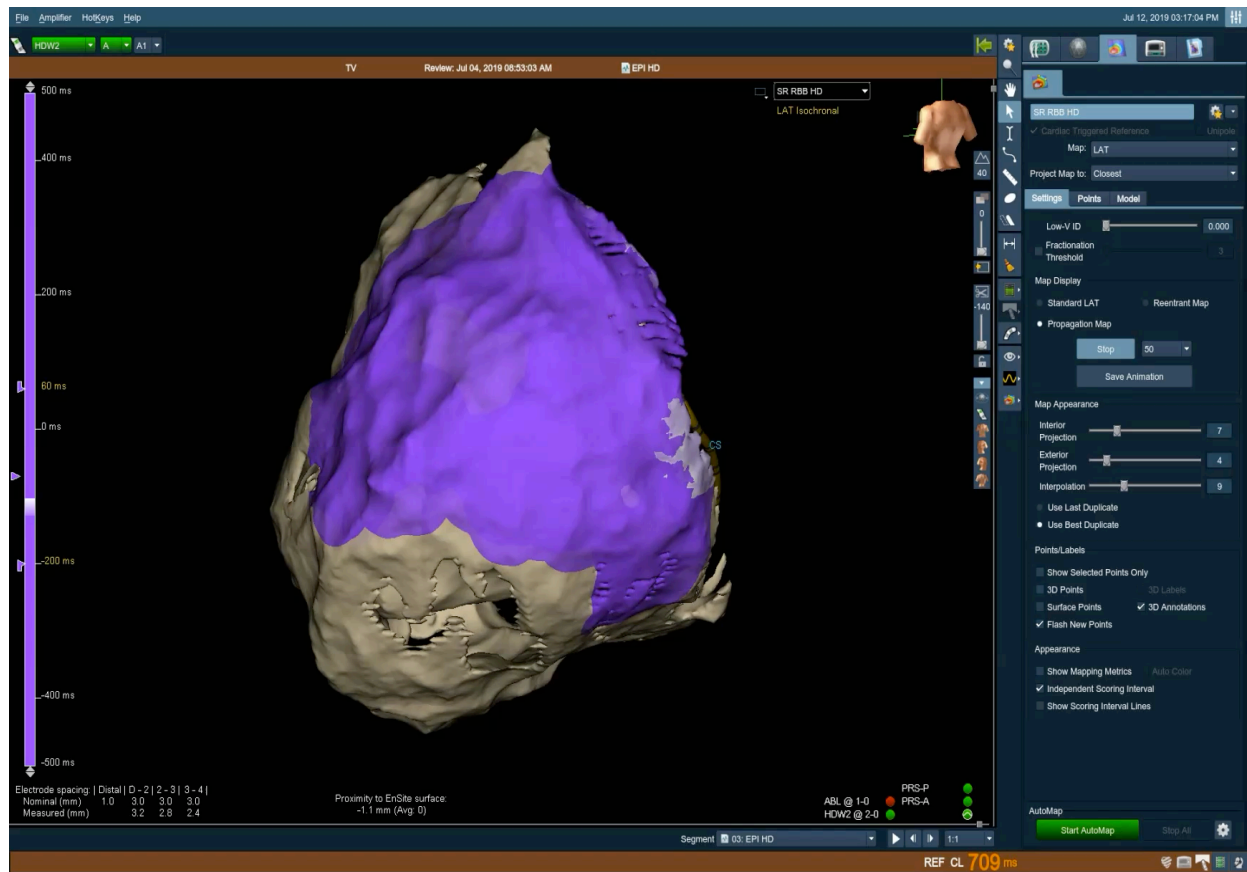
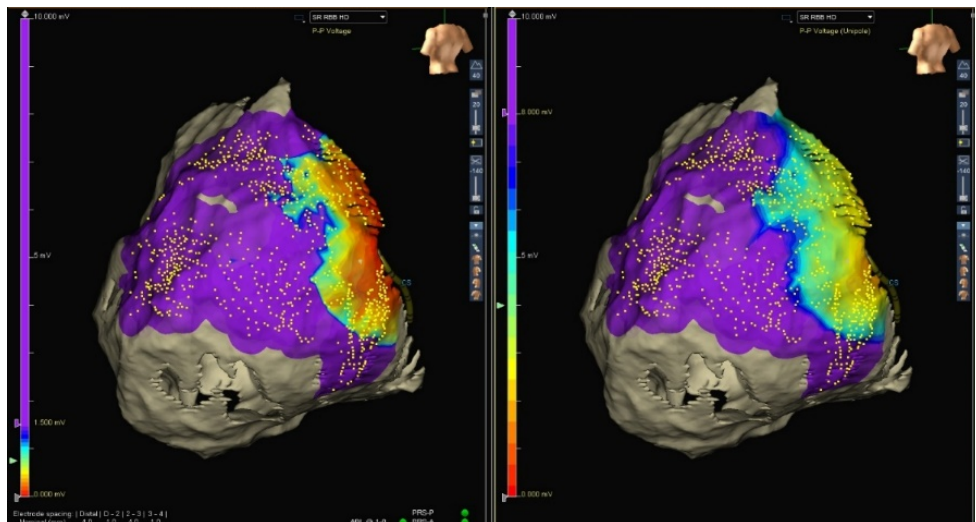
Ventricular Duration Map Area as a Valuable and Effective Target for VT Ablation End Point in Ischemic Cardiomyopathy: The VEDUM FREEDOM Study

Cauti FM, Circ A&E 2025

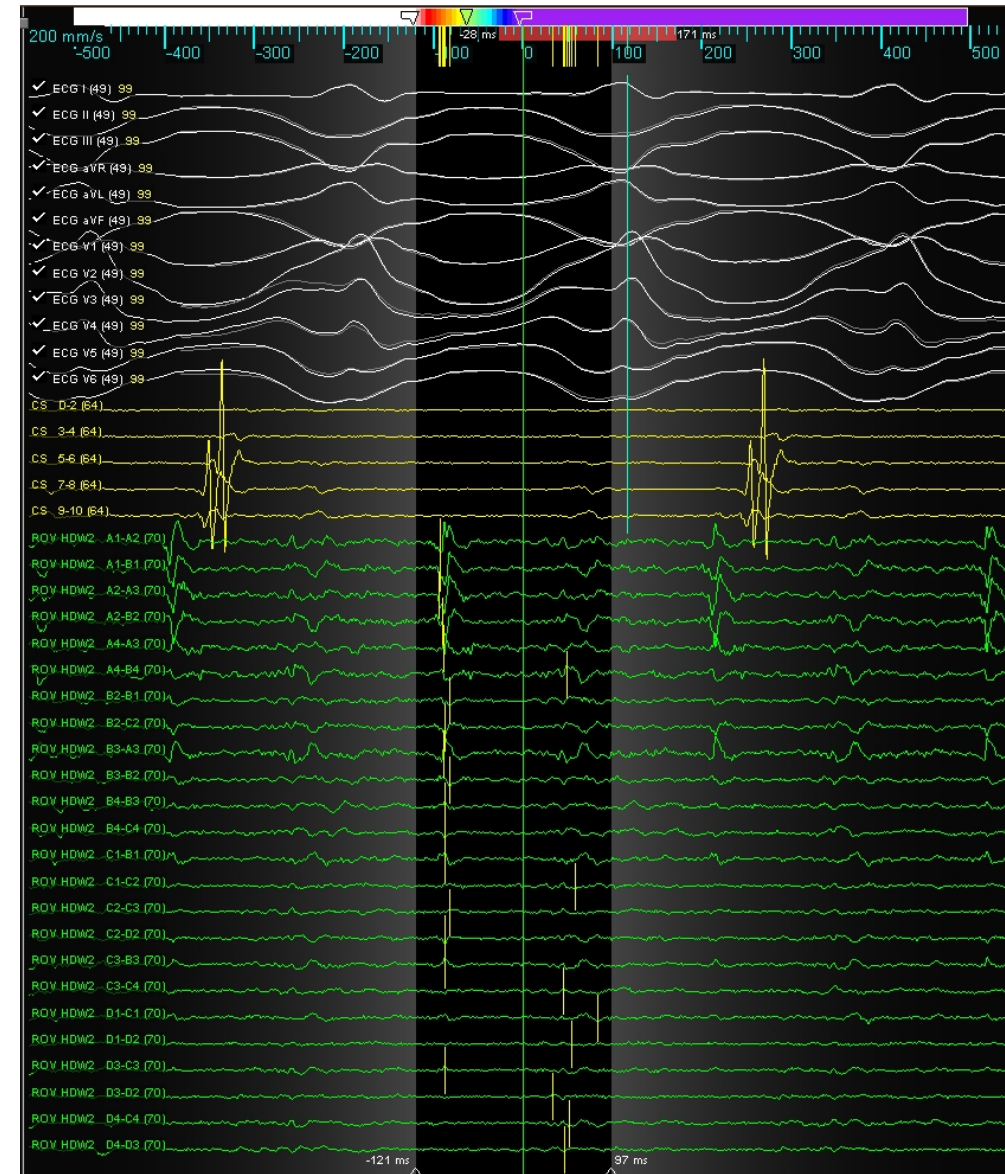
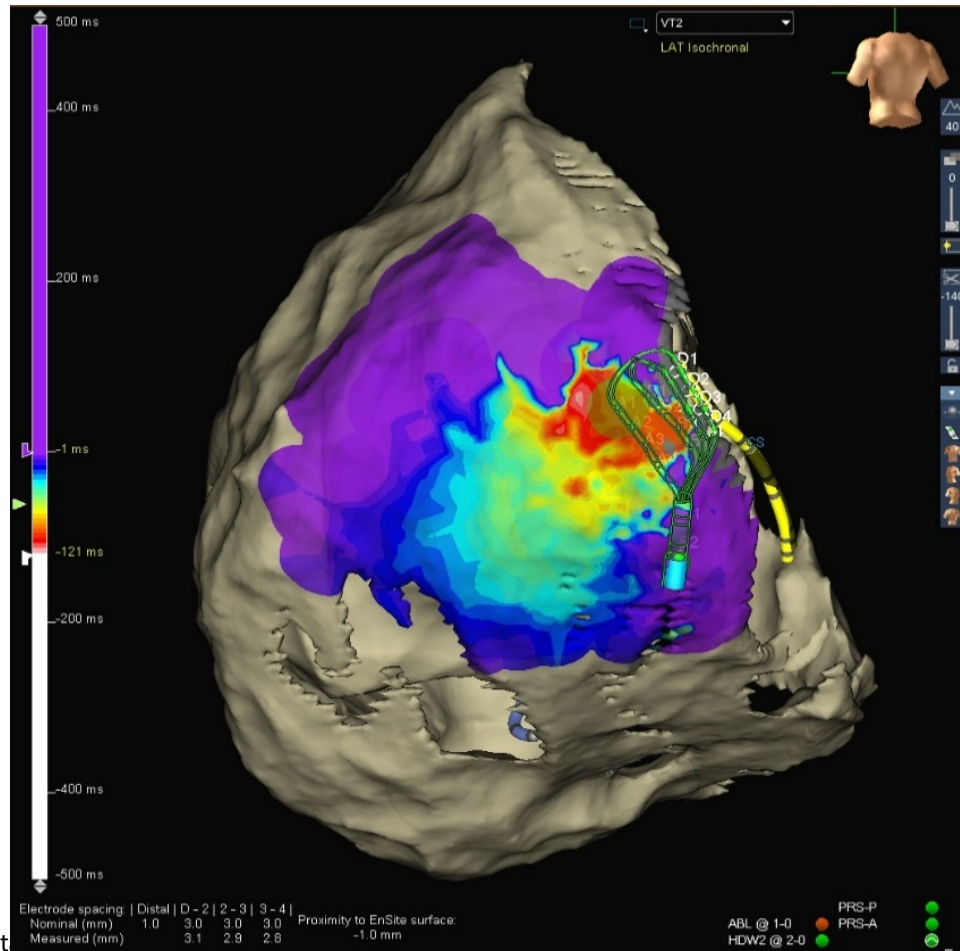




# TV post-miocardite

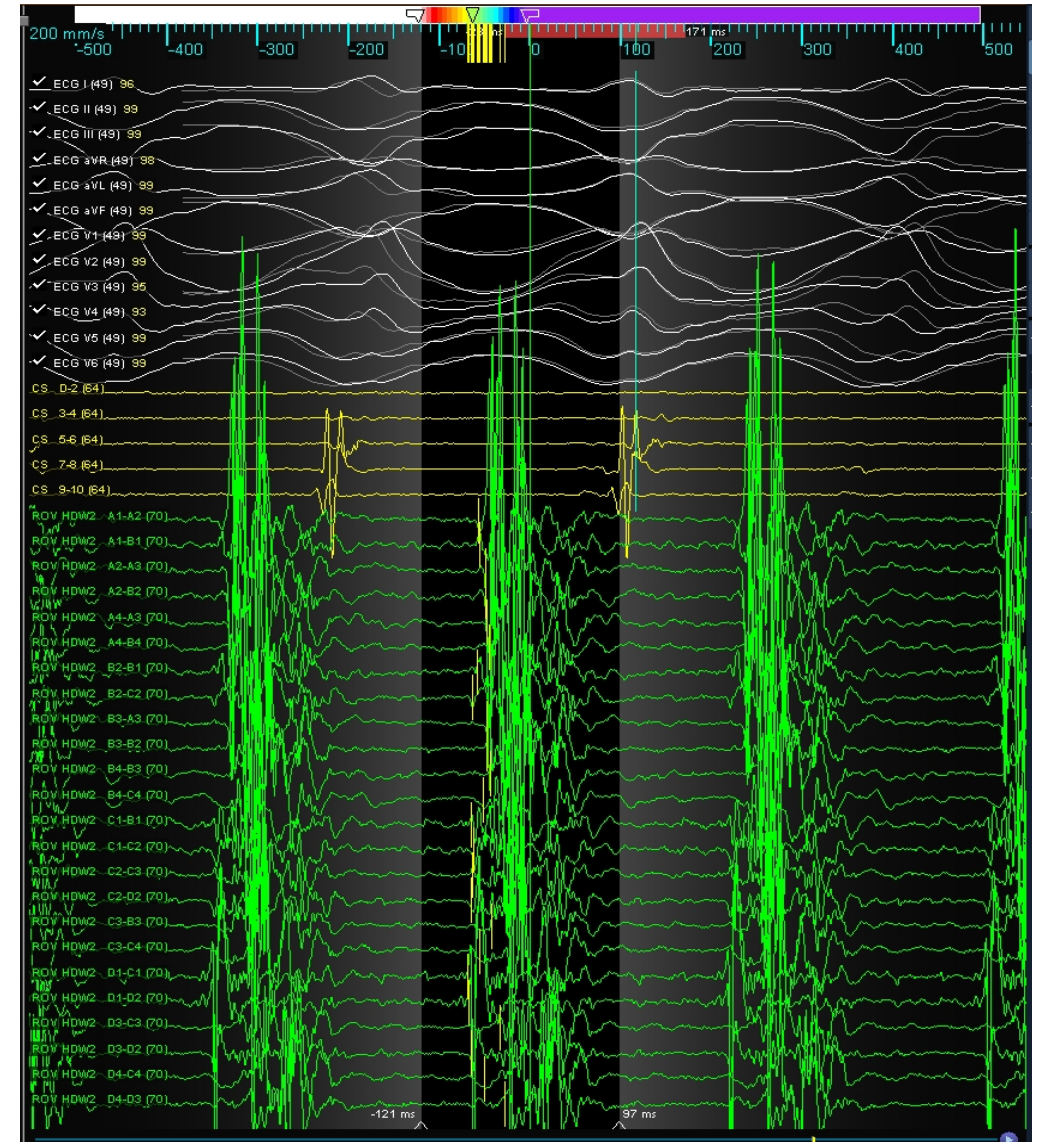
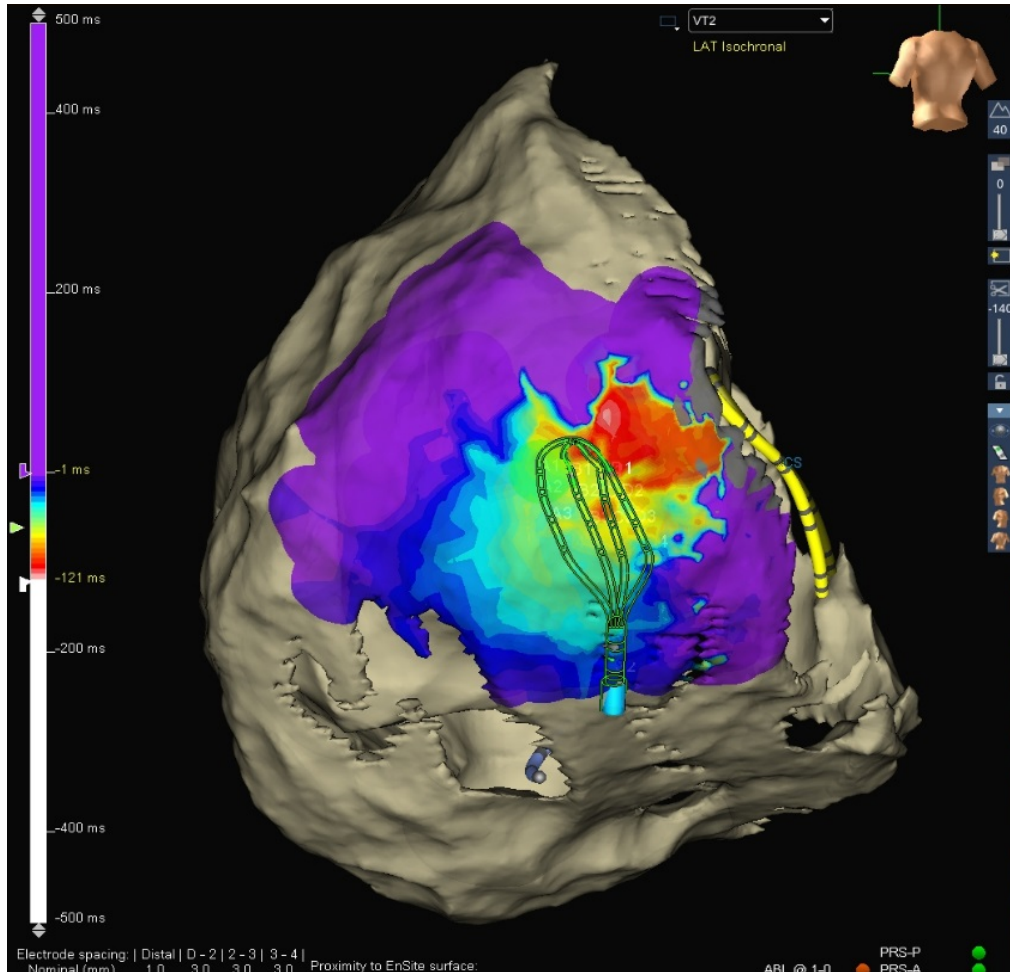


# VT mapping: entrance



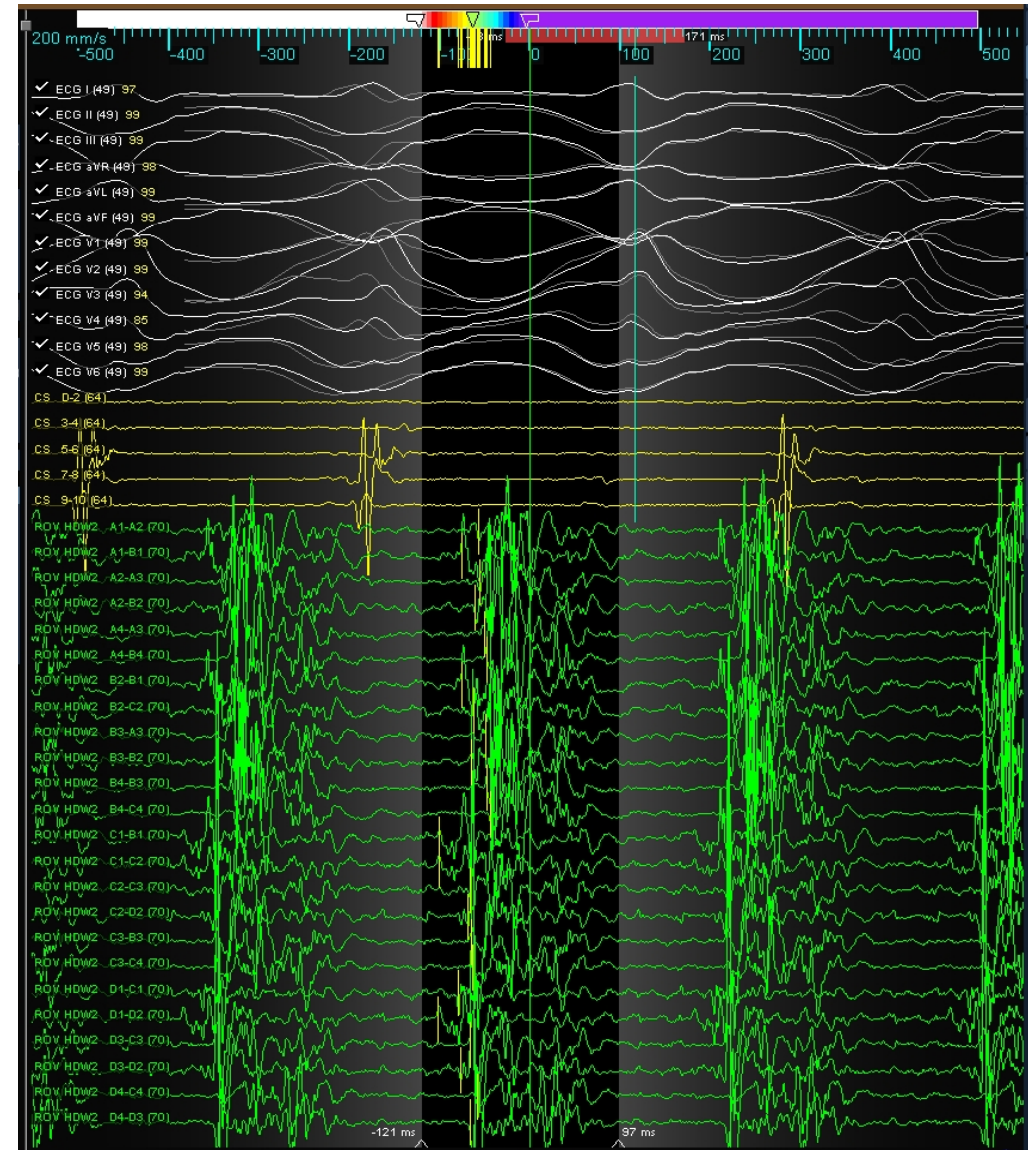
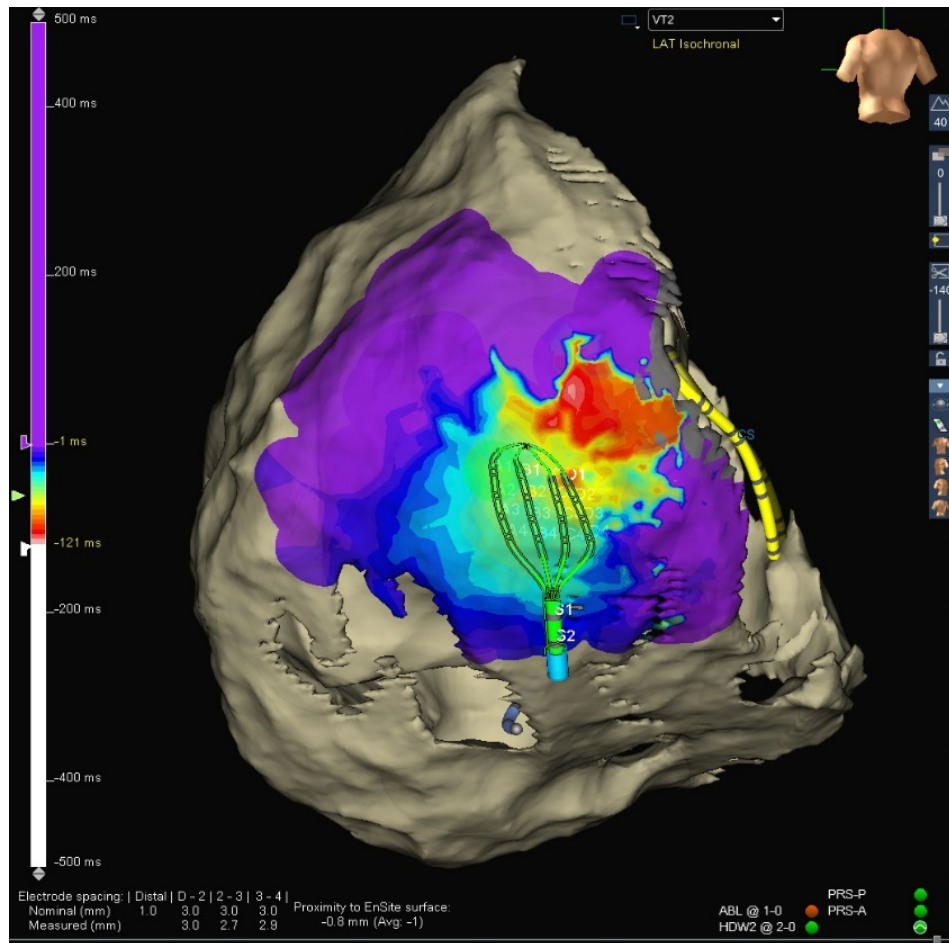


# VT mapping: mid-isthmus

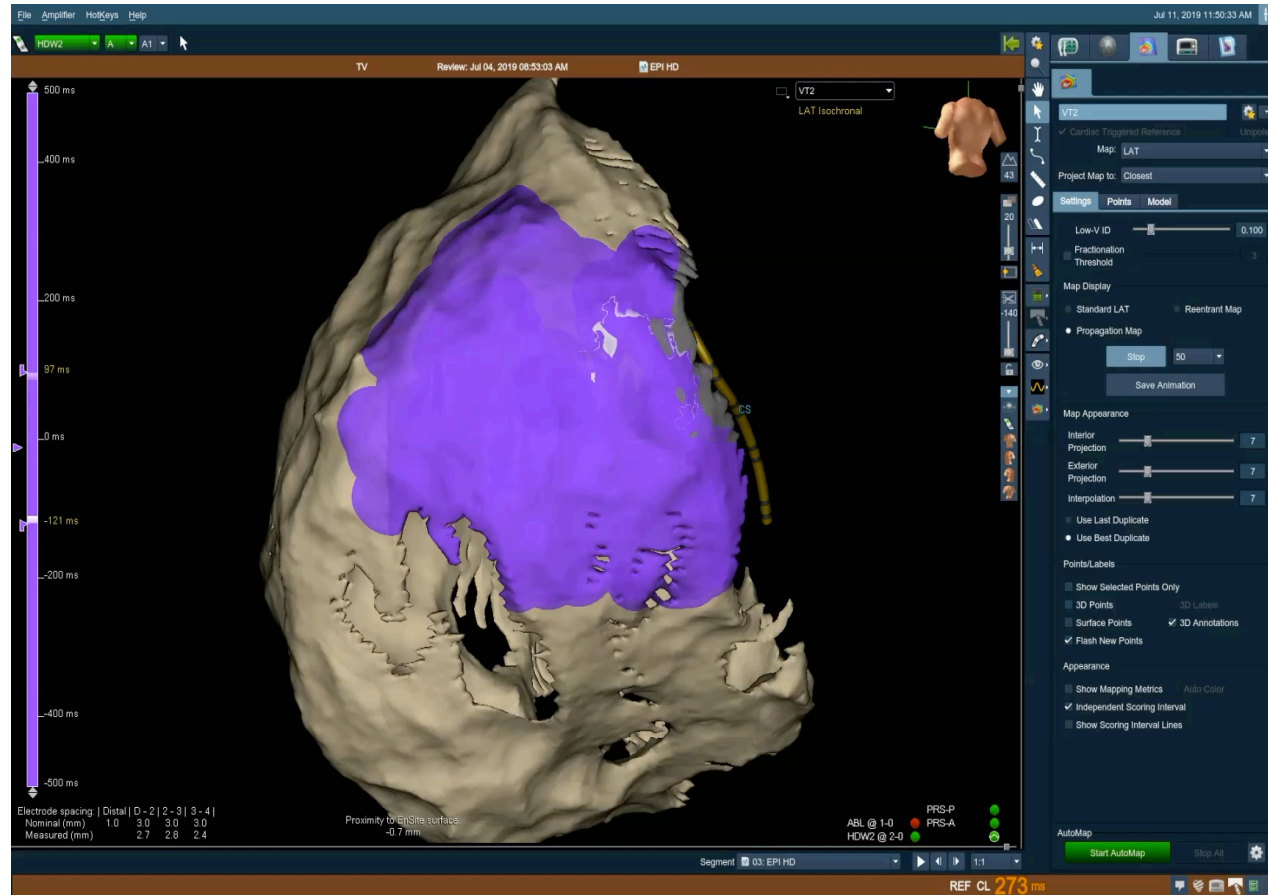




# VT mapping: exit



# Propagazione



# RF

