

# Intraoperative Fiducial Tracking in TORS

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## Goals:

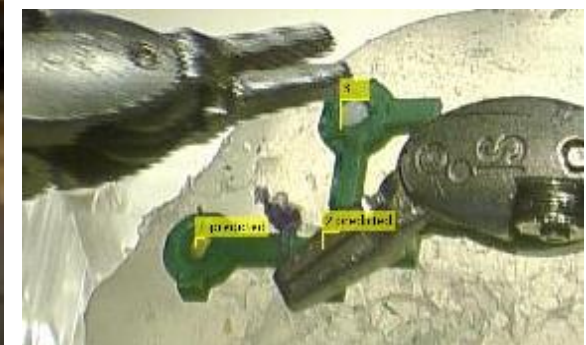
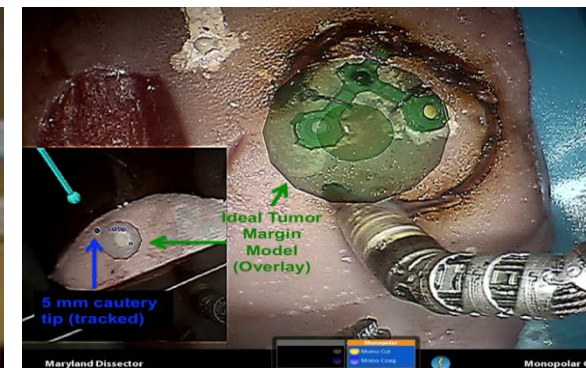
- Develop and implement a method to intraoperative track fiducial under stereoscopic camera

## Significance:

- TORS is becoming more and more popular
- Intraoperative fiducial tracking is an important step in a TORS system with stereoscopic video augmentation

## Results:

- Fiducial Detection of recorded endoscopic images
- Fiducial Detection of recorded endoscopic videos
- Fiducial Tracking of recorded endoscopic videos



# Intraoperative Fiducial Tracking in TORS

TORS:

- TransOral Robotic Surgery
- Image guidance with stereoscopic video augmentation during TORS is based on coordinate transformation.
- It is done by placing a fiducial on the base of tongue

Workflow:

- Use color and edge characteristics to detect the frame which encompasses the three fiducials
- Use color and position characteristics to detect the fiducials
- Apply Kalman filter to track the fiducials in videos