

# Topics

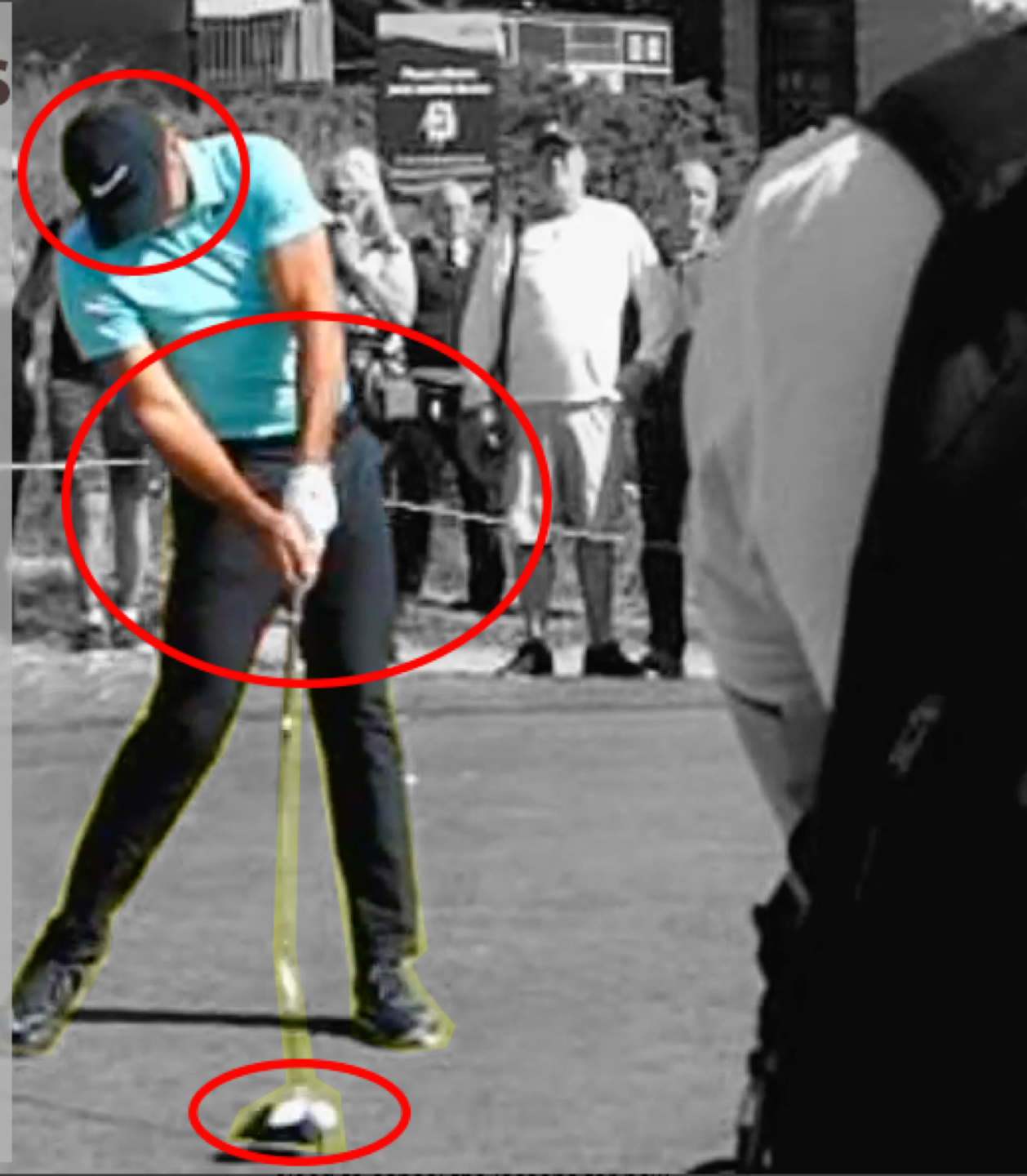
- 3D – Axial Velocity and Arc Width
- John Dunigan Putting Book – HOLE IT!
- Anatomy of “feel” – coaching awareness
- Coaches Questions/Swing Discussions



**Brain controls  
body**

**Body swings  
club**

**Club hits ball**



Start with Big Picture

Break down to  
details as needed



Figure 2.1

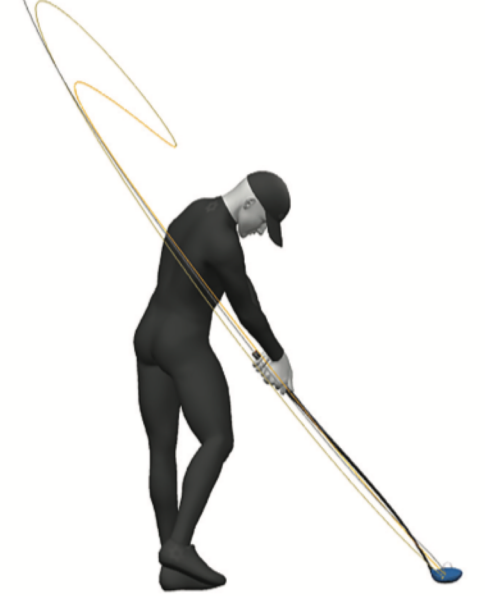
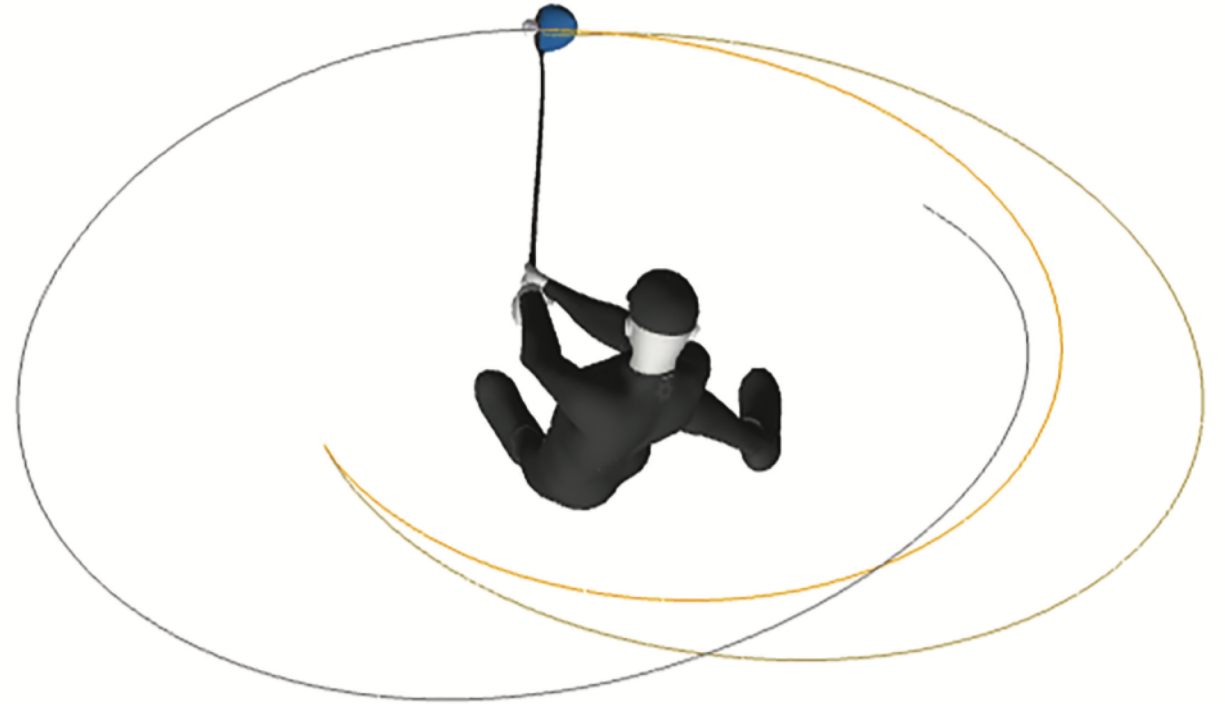
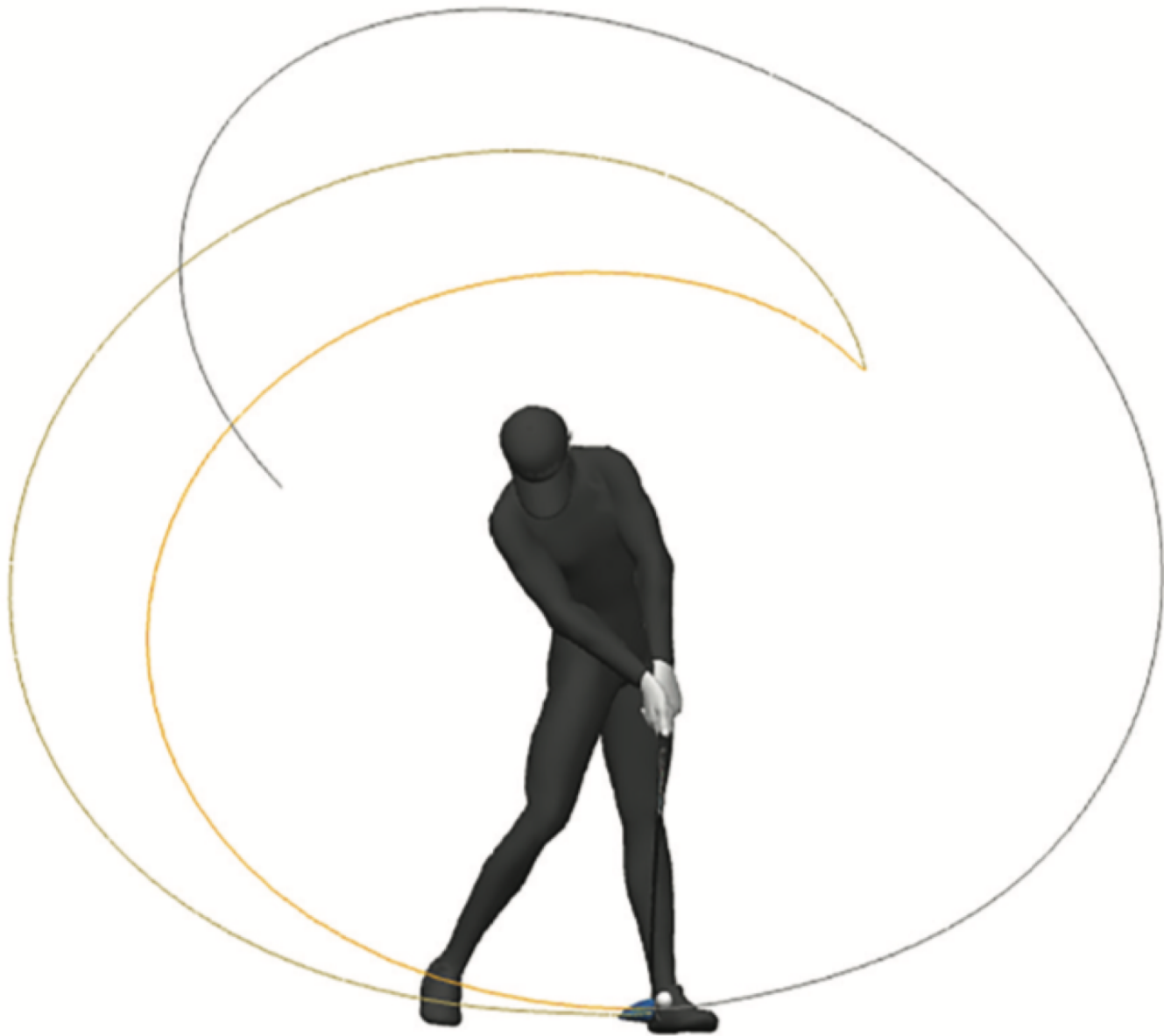
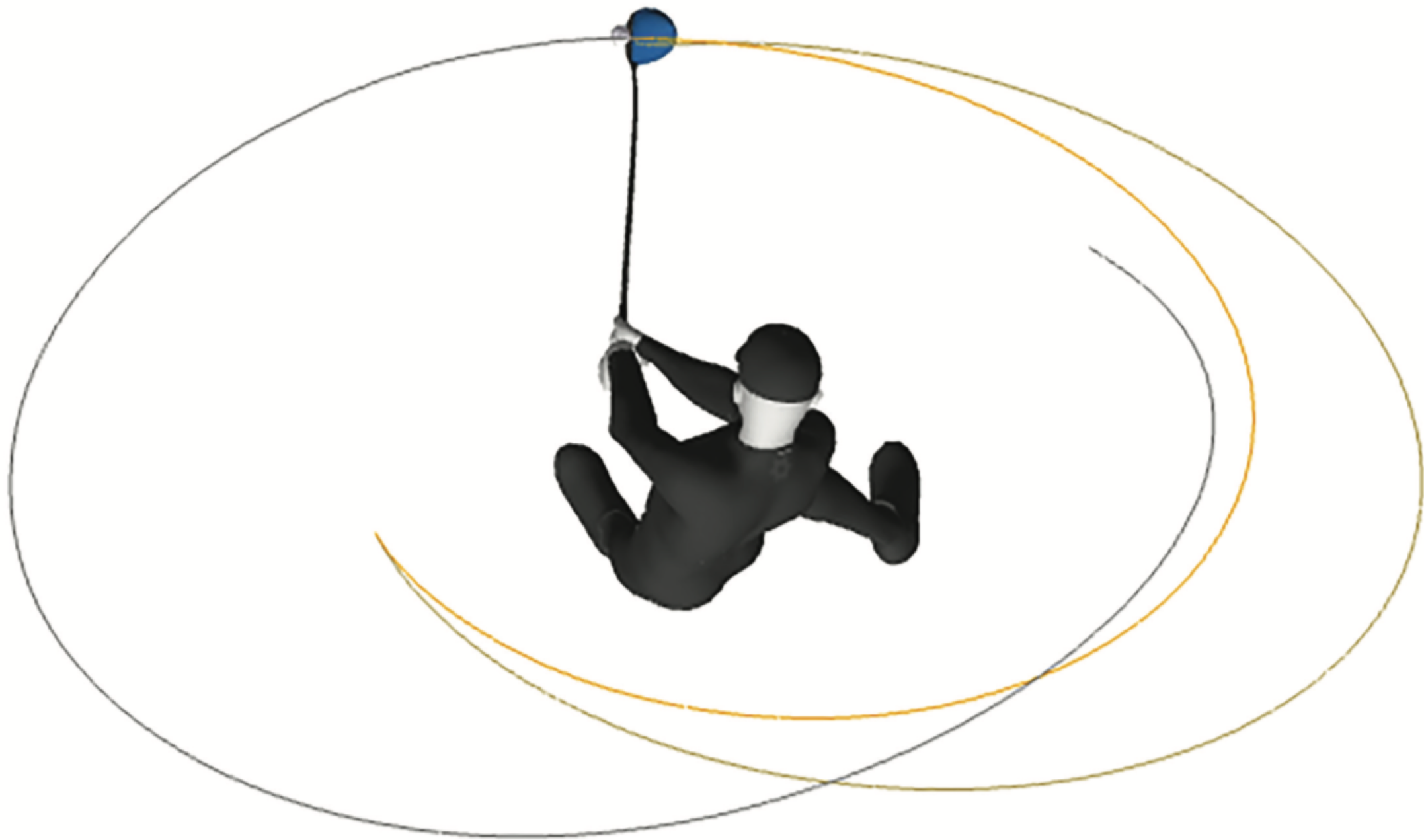


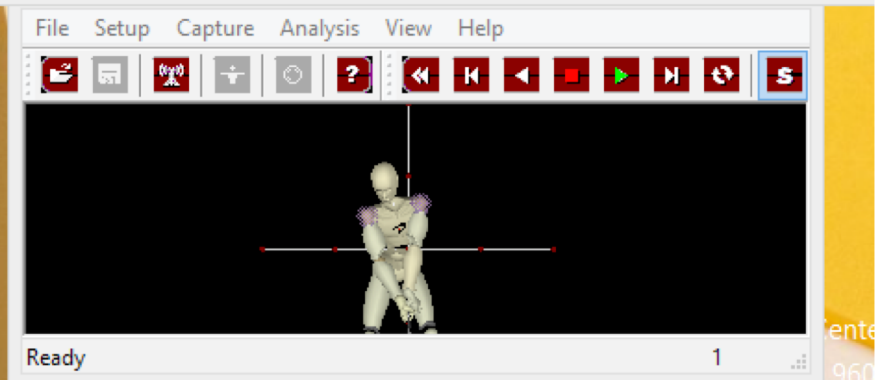
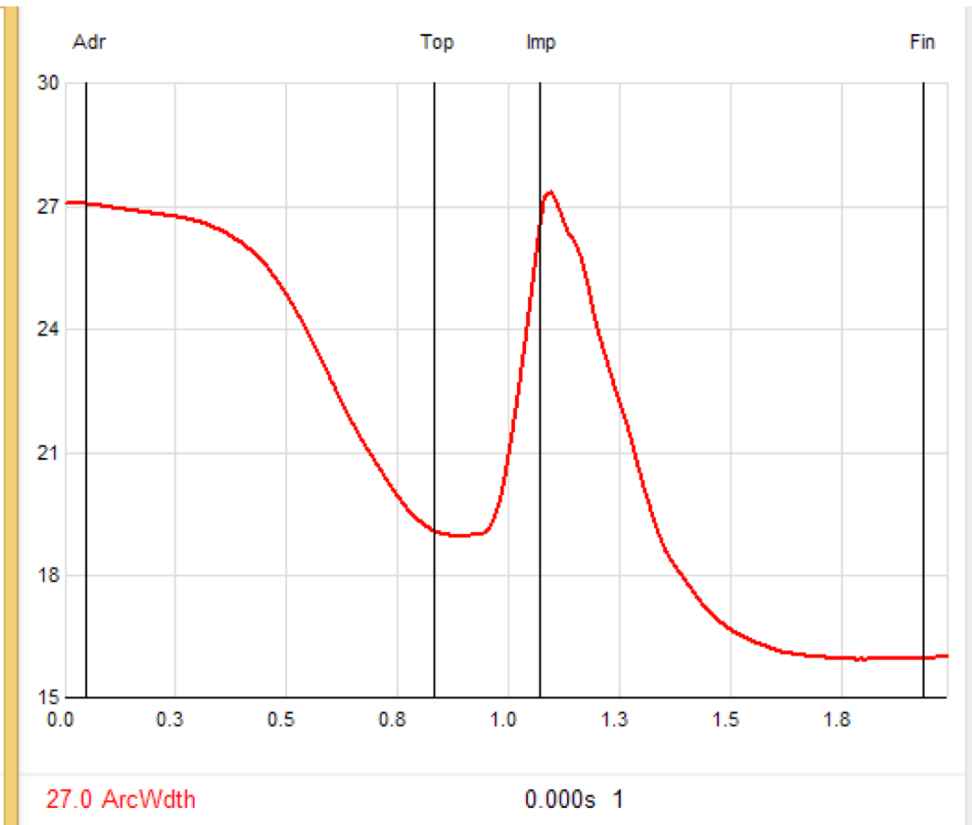
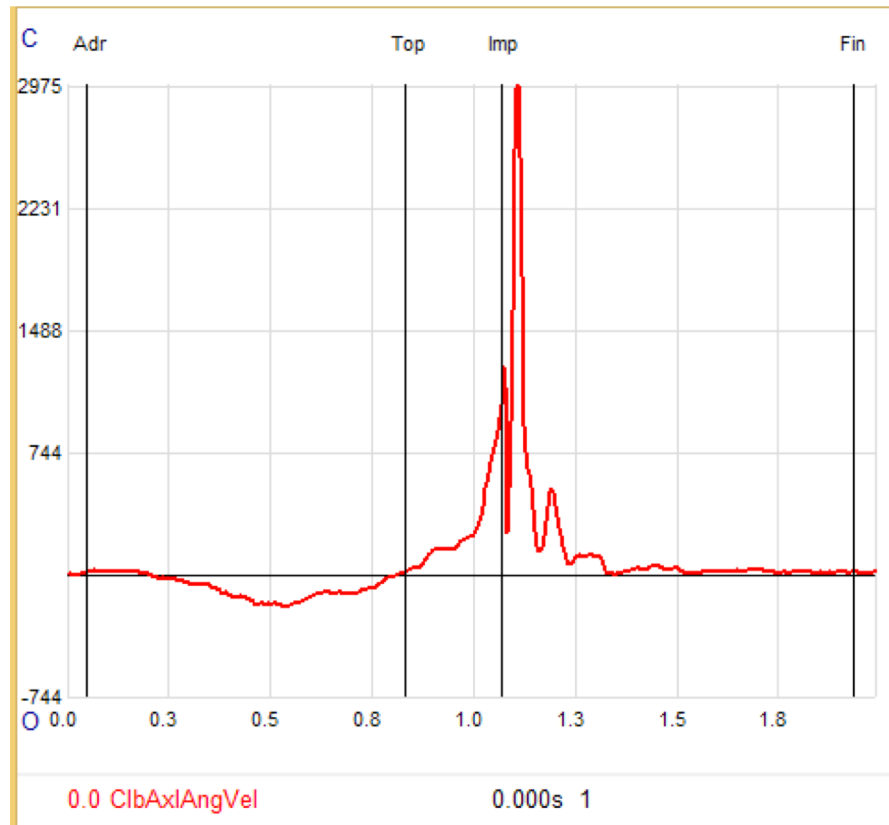
Figure 2.2



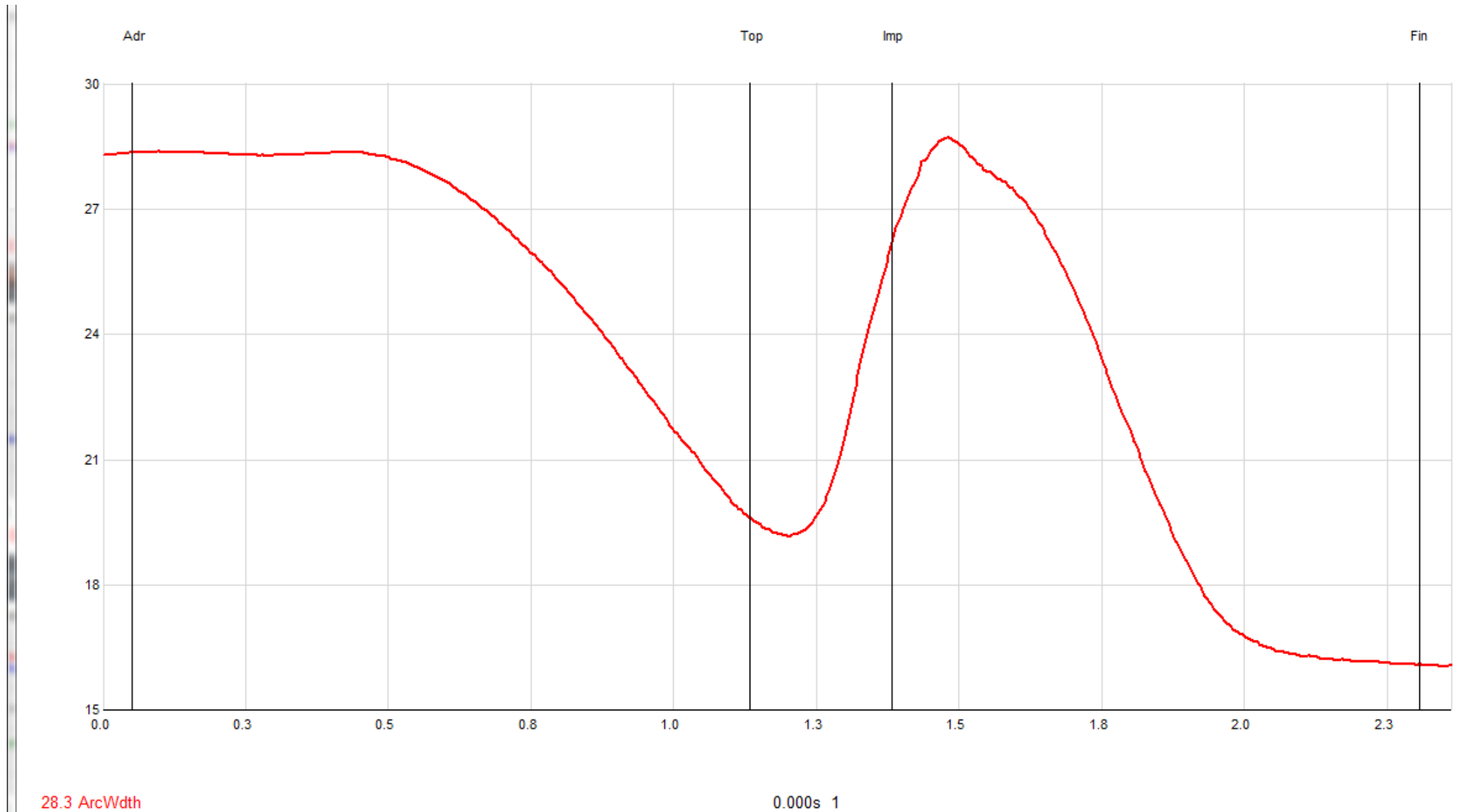




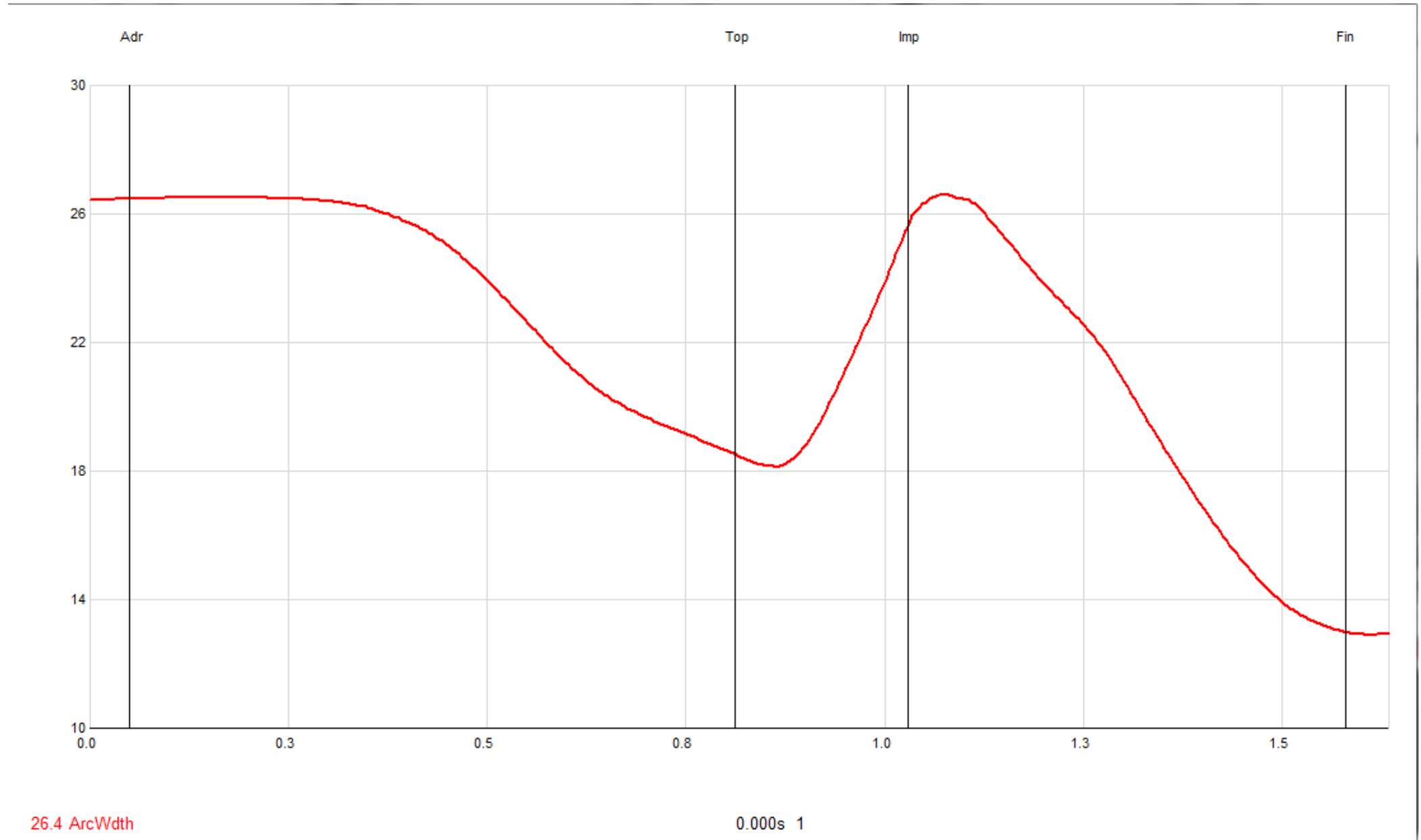
# Big 3 Graphs – Kinematic Sequence/Arcwidth/Axial Velocity



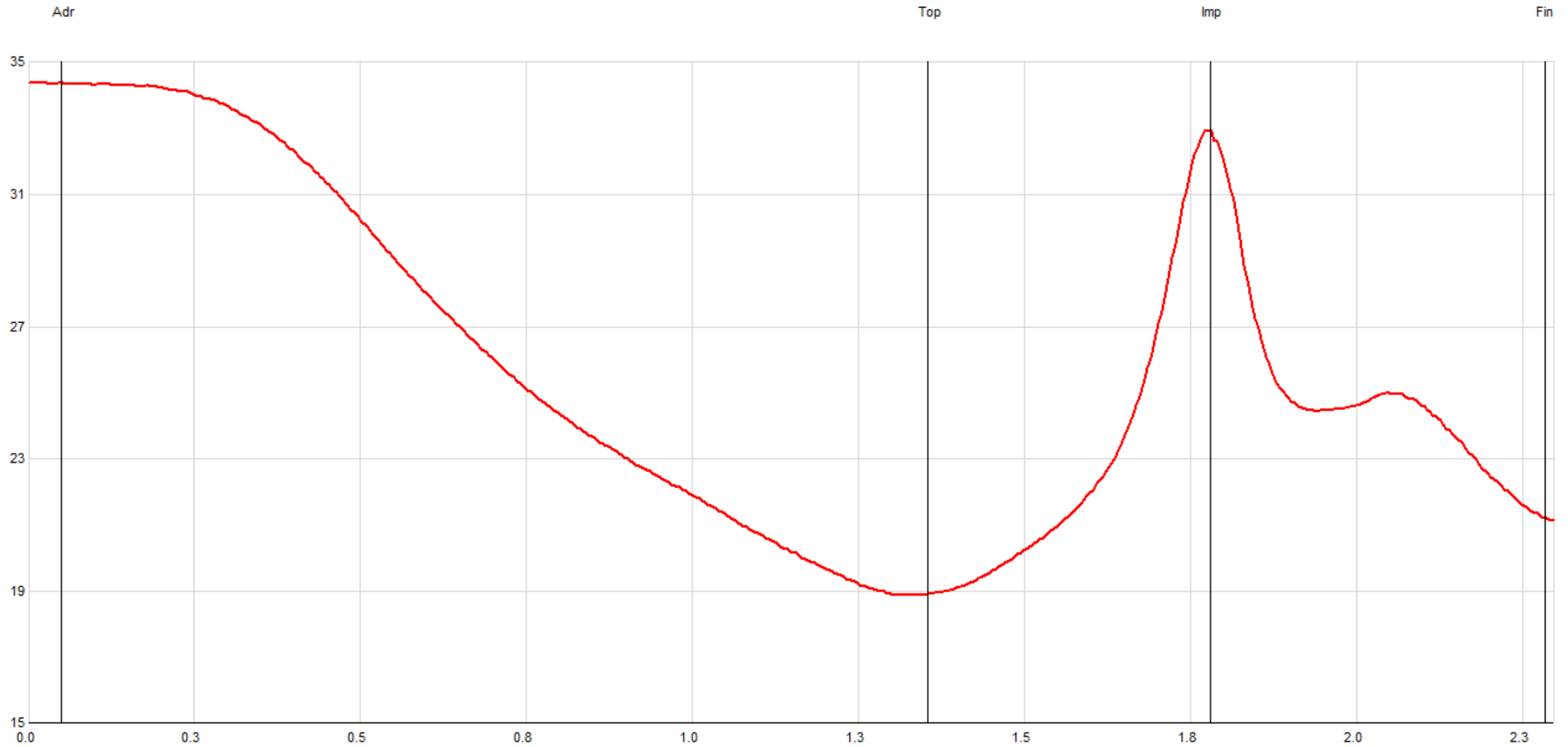
# Arc Width Examples



# Arc Width Examples

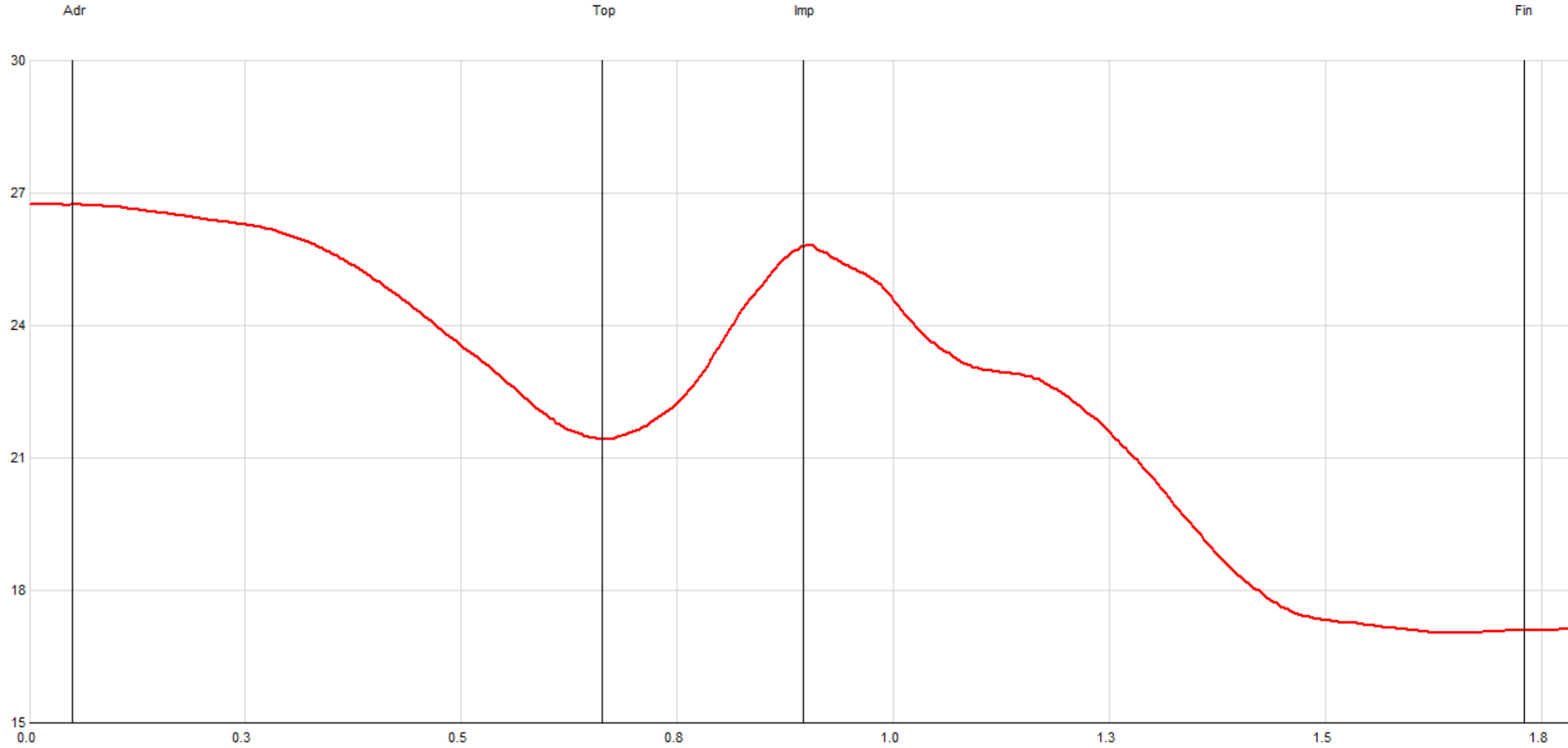


# Arc Width Examples

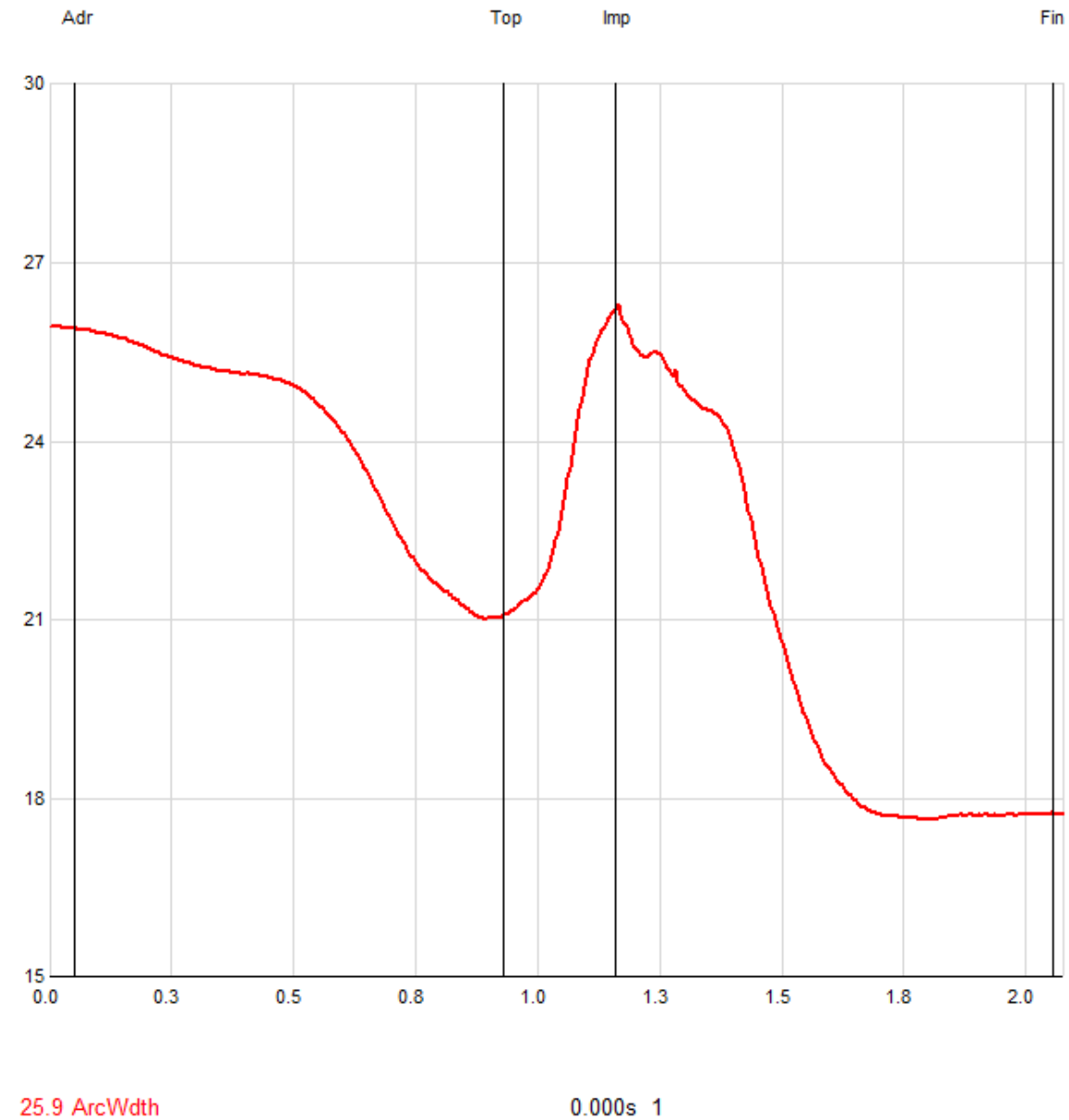
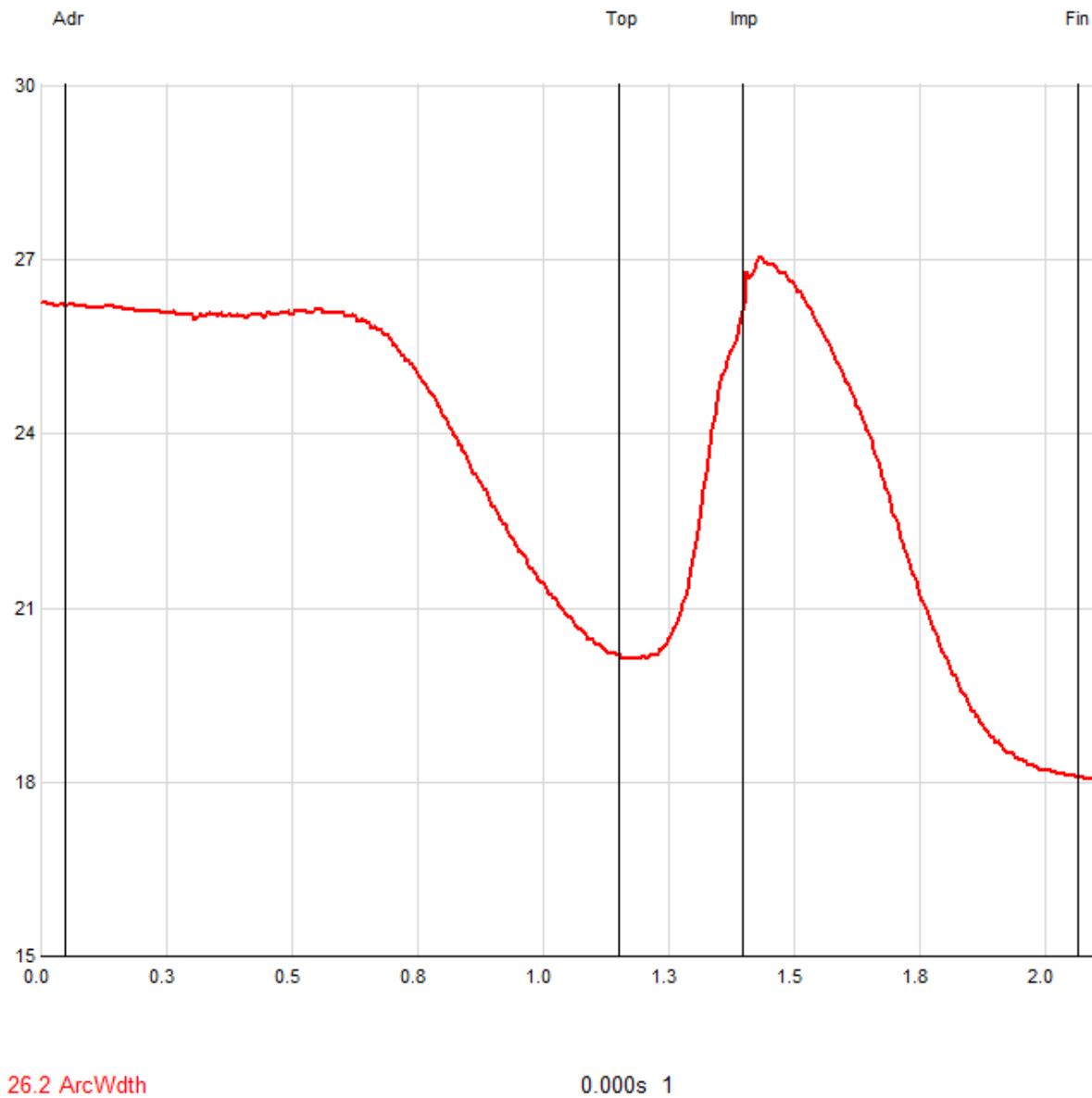




# Arc Width Examples



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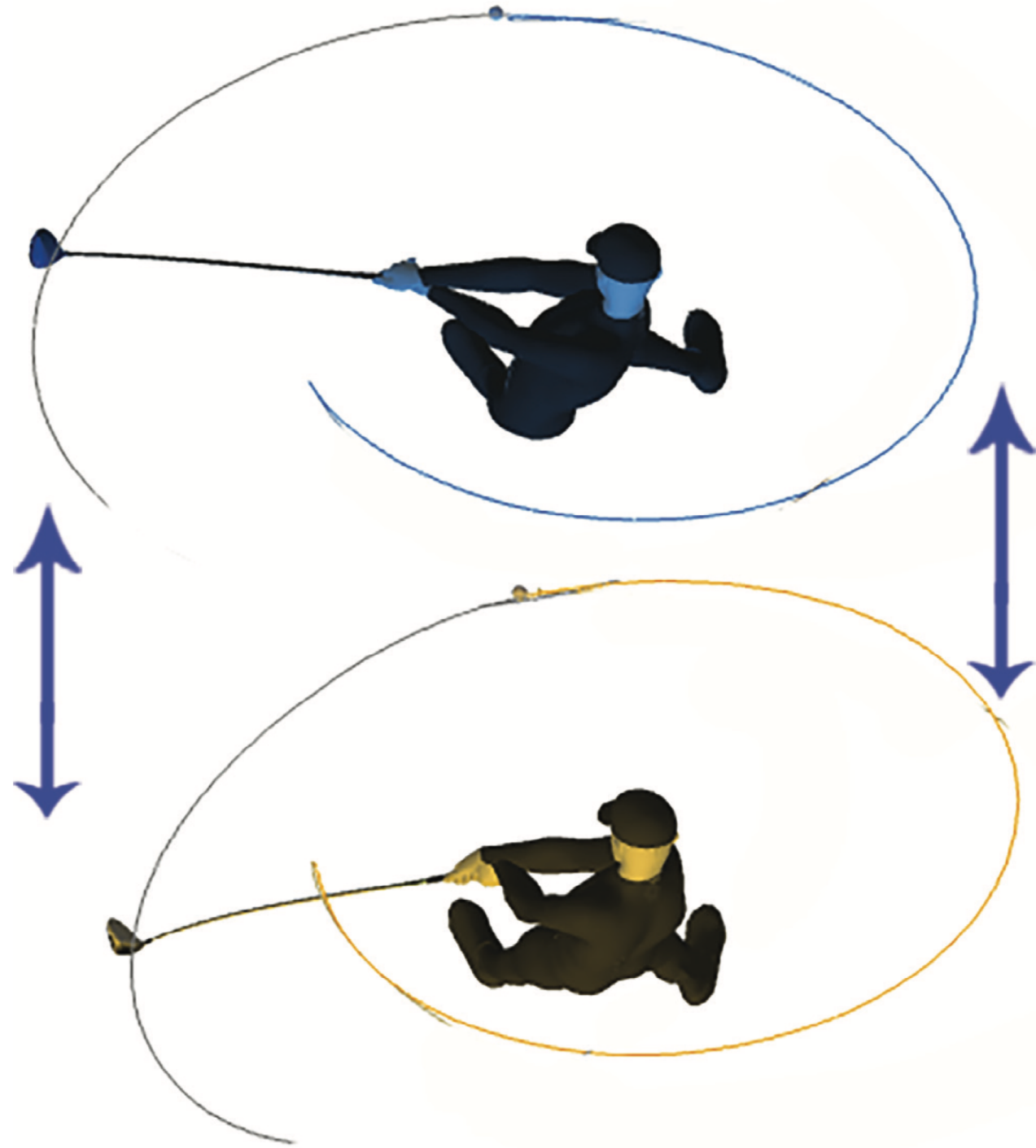
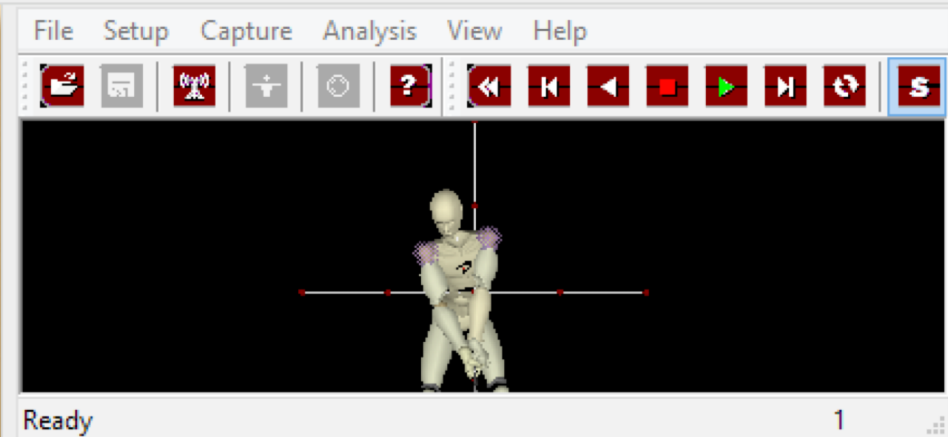
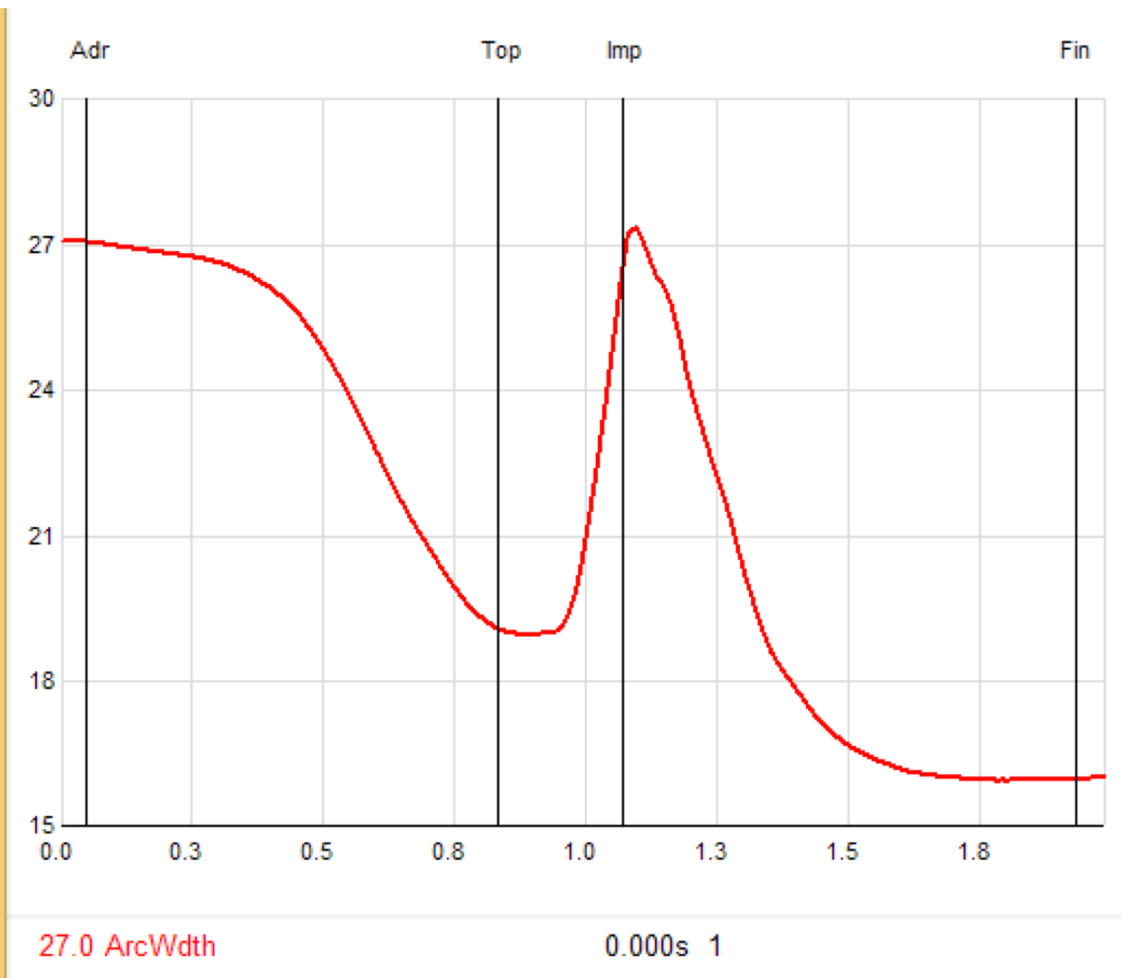
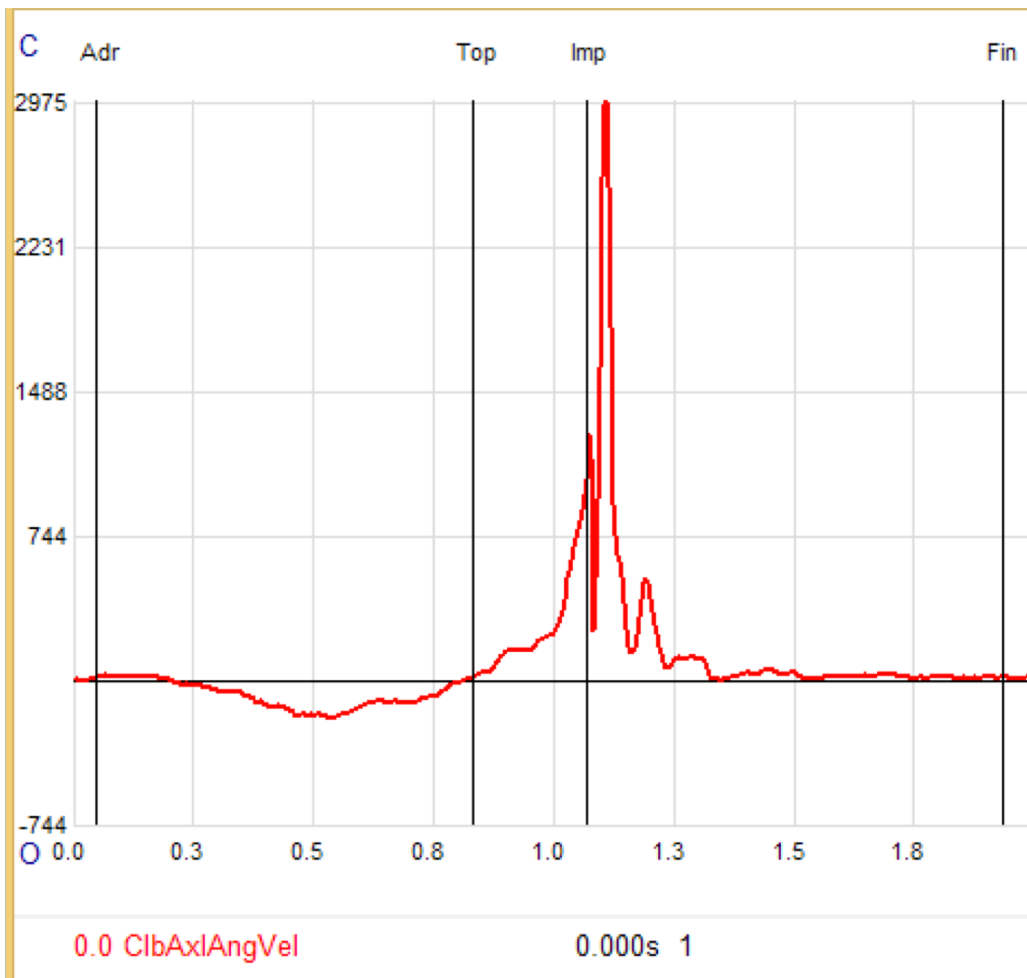
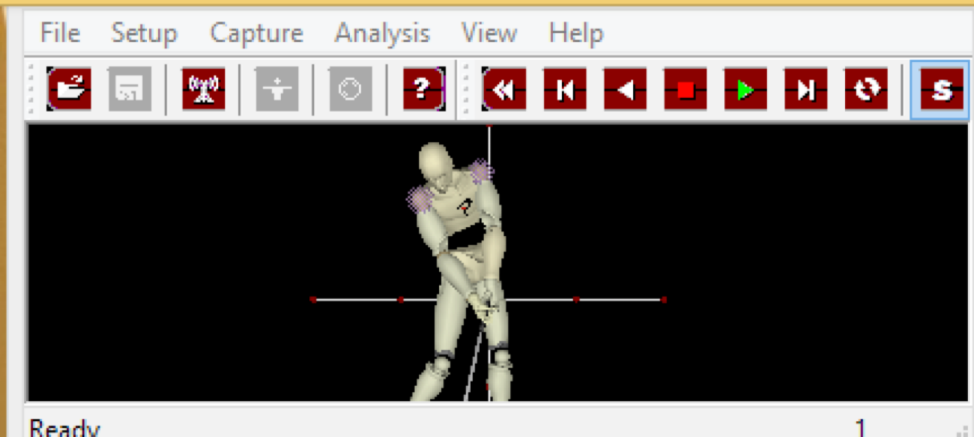
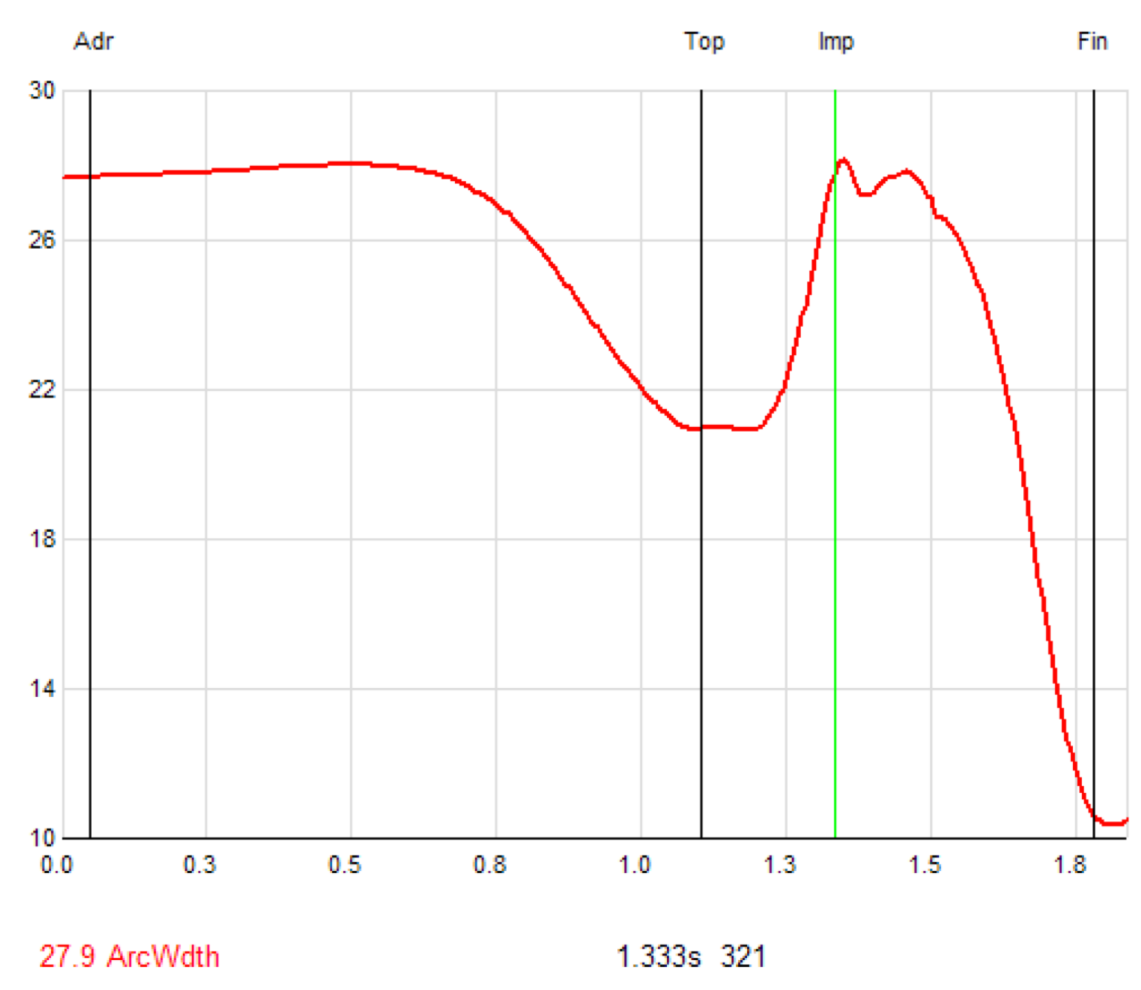
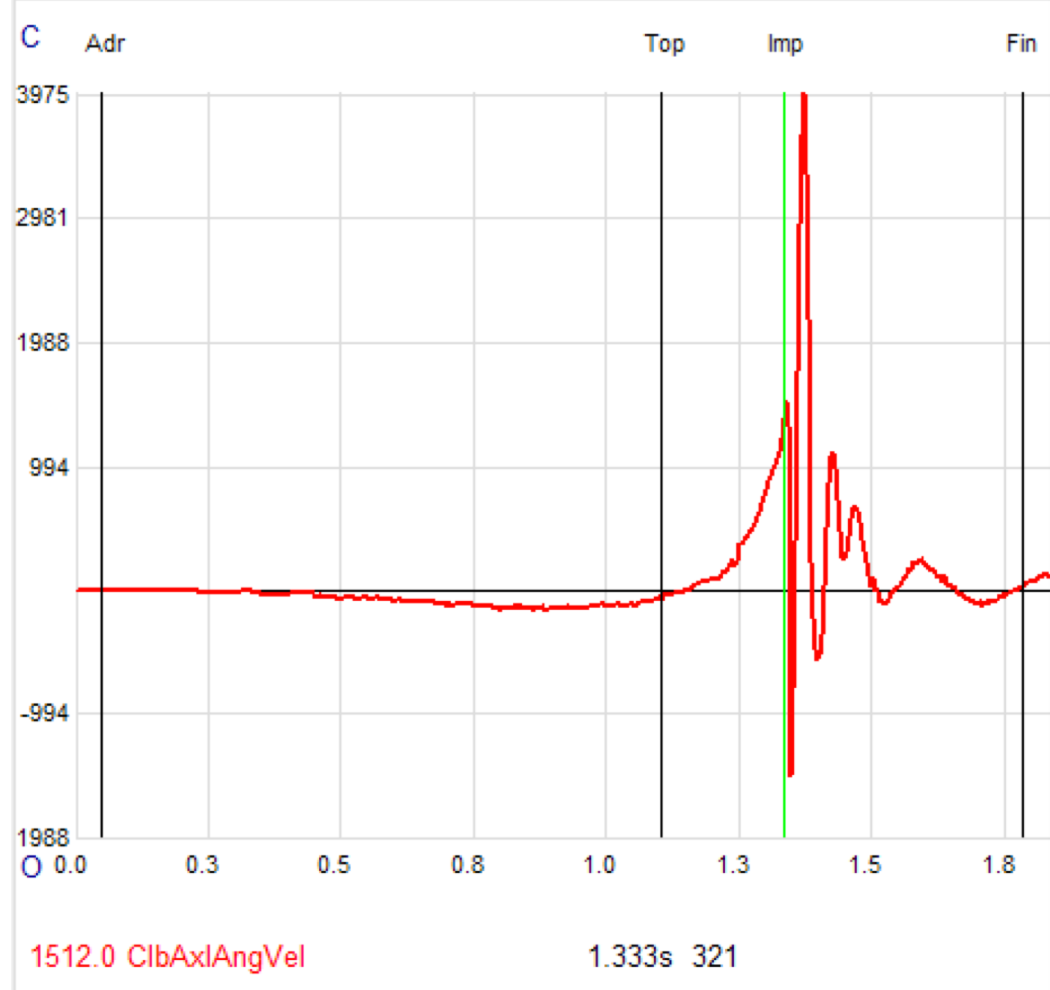


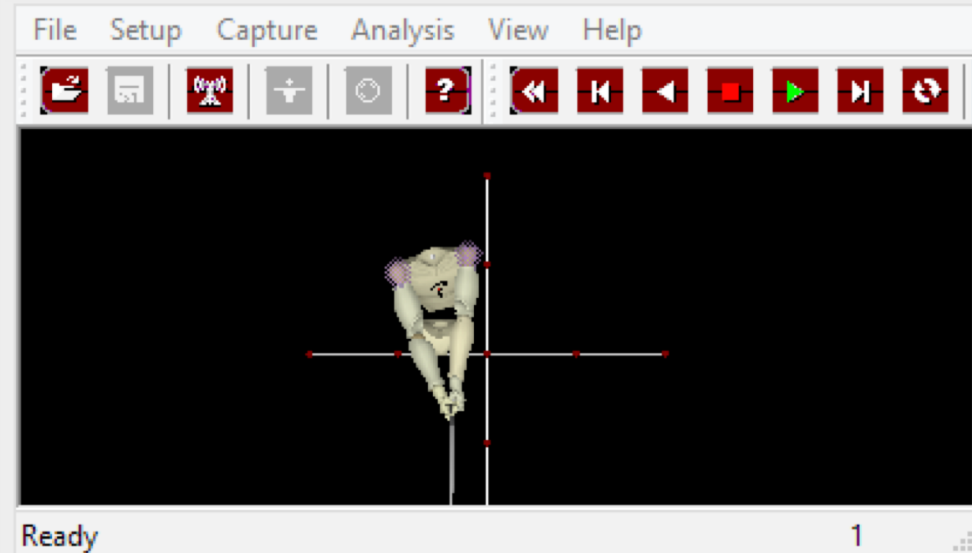
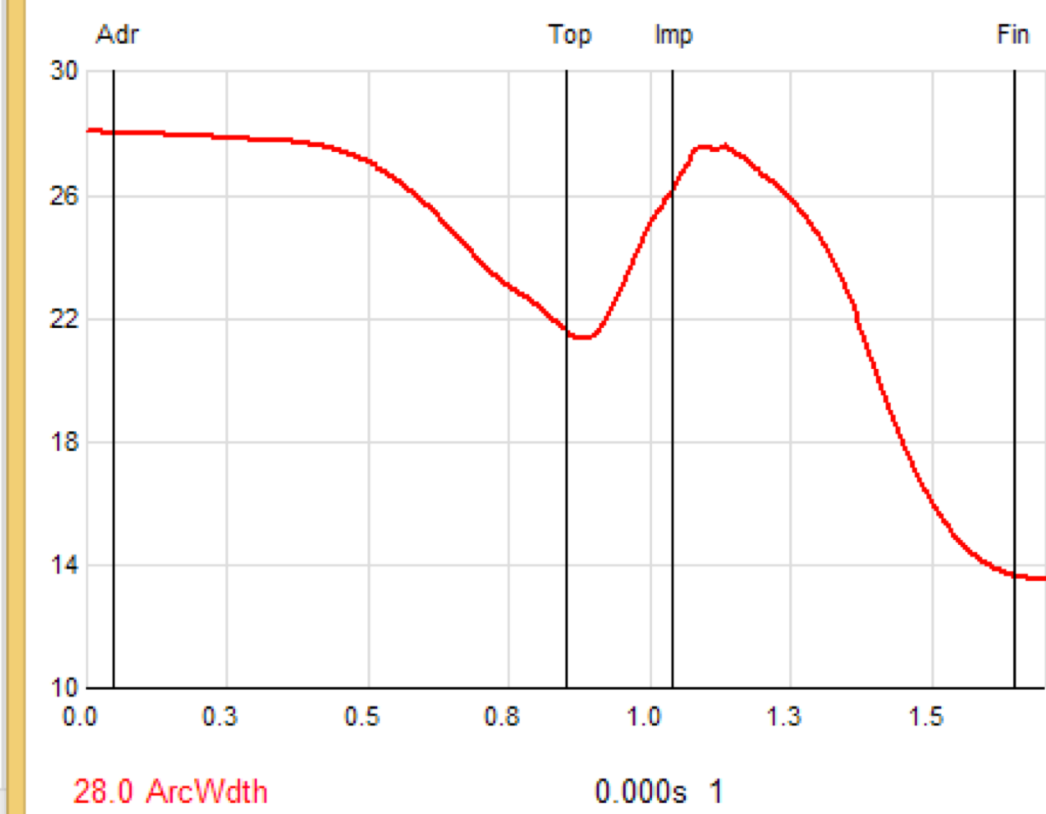
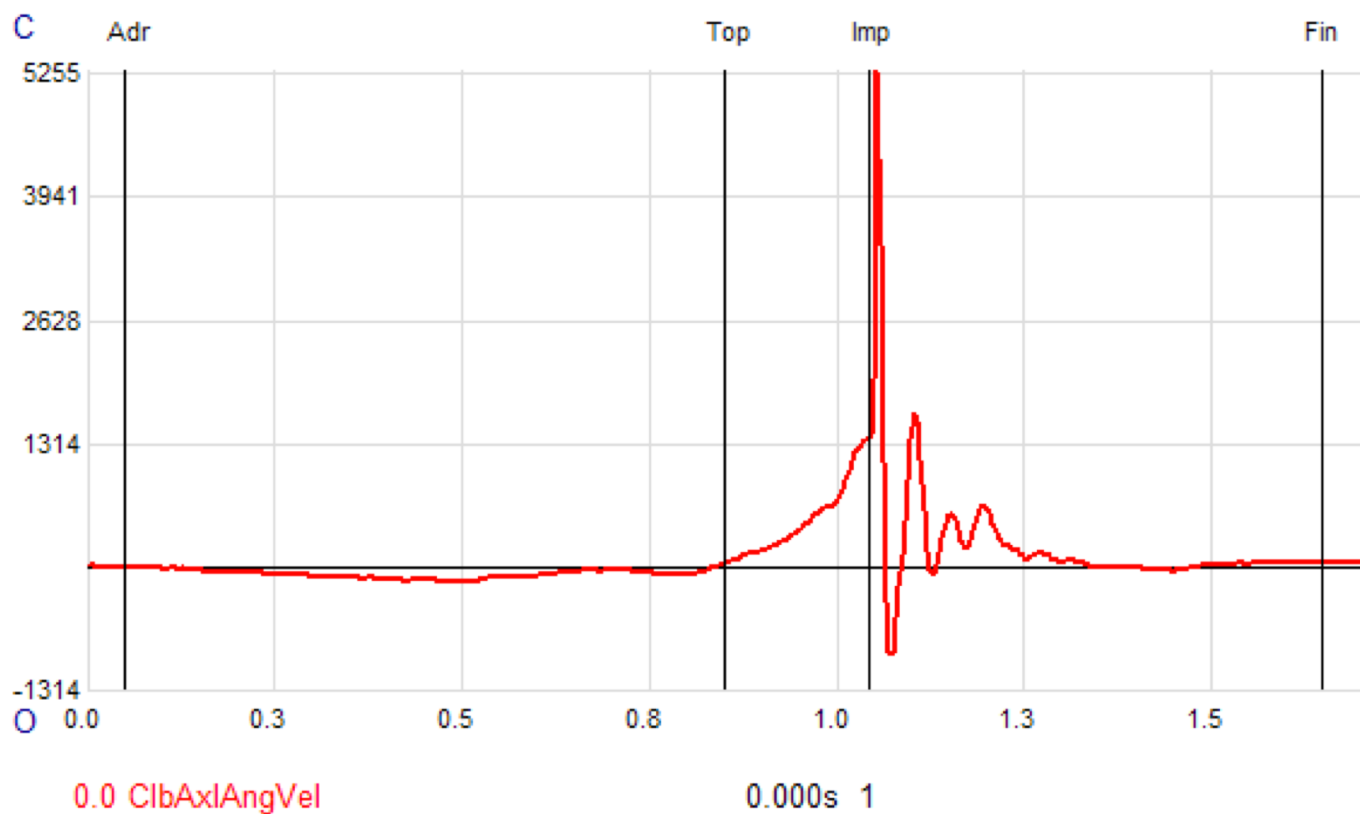


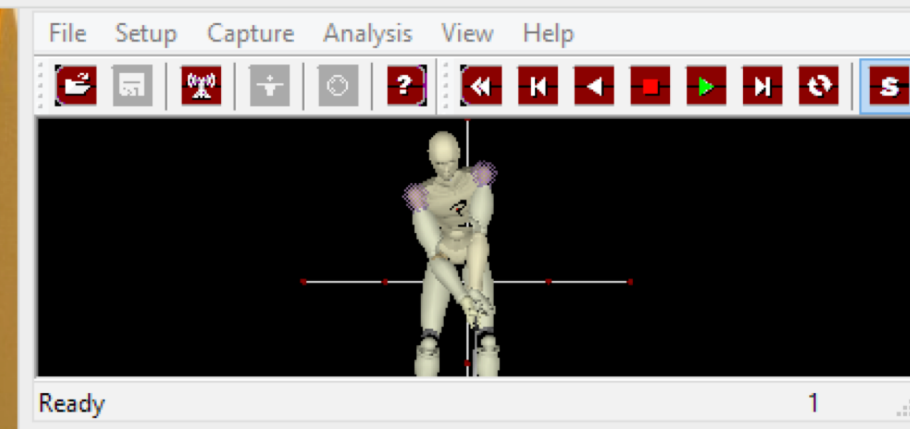
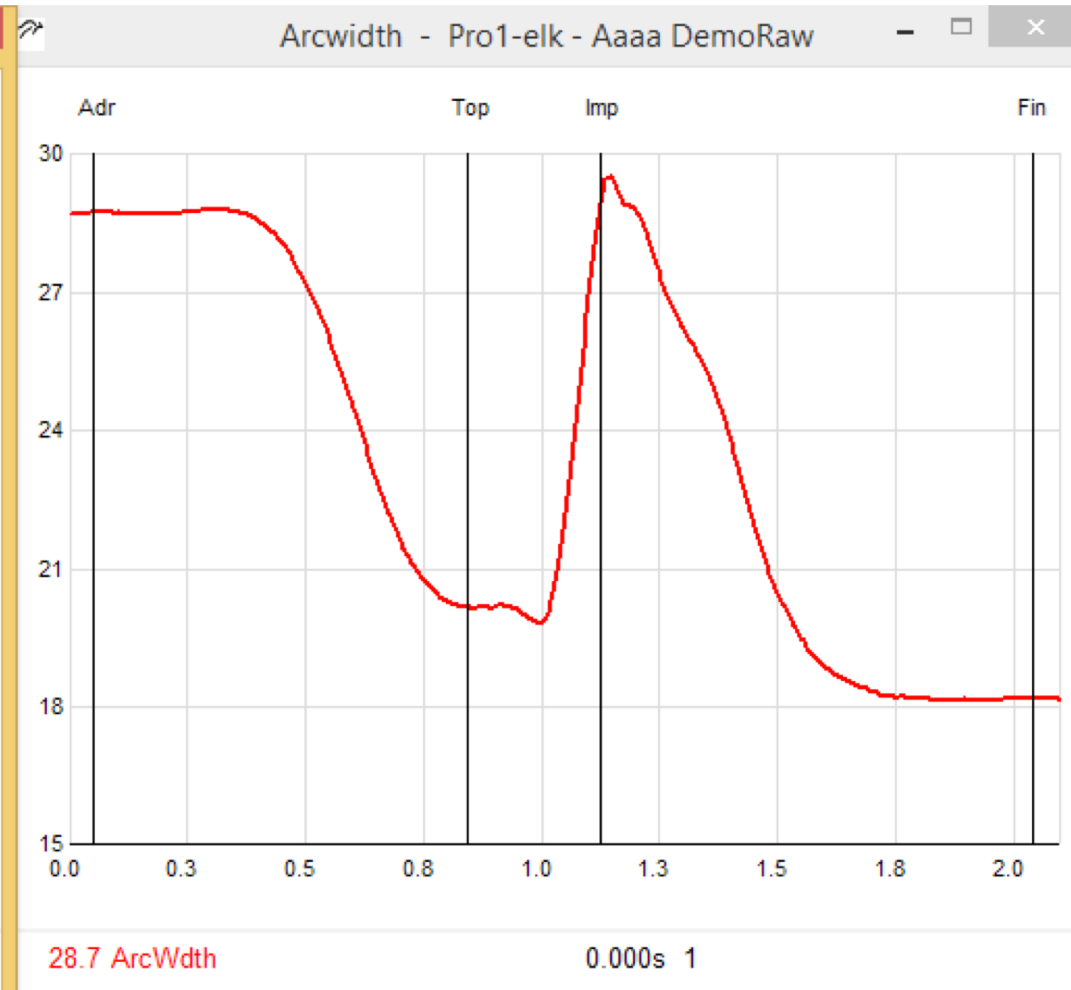
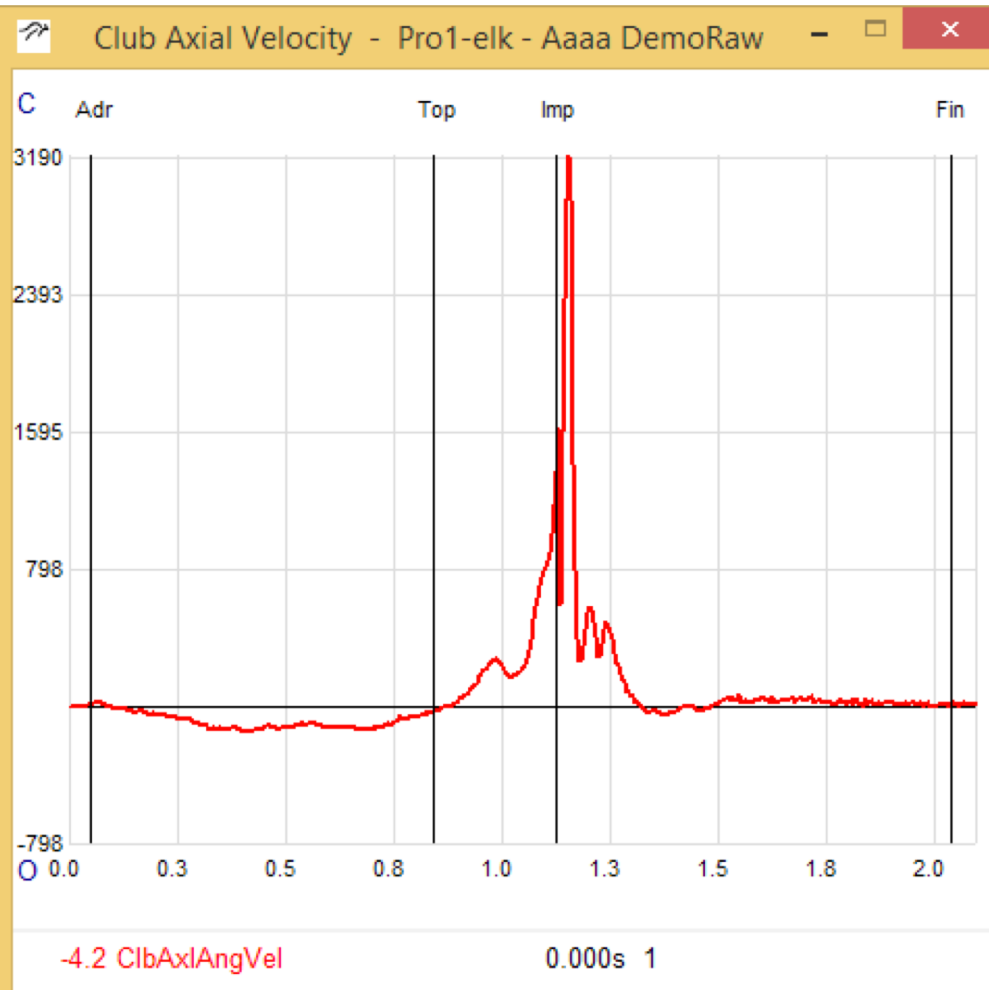
Figure 11.9



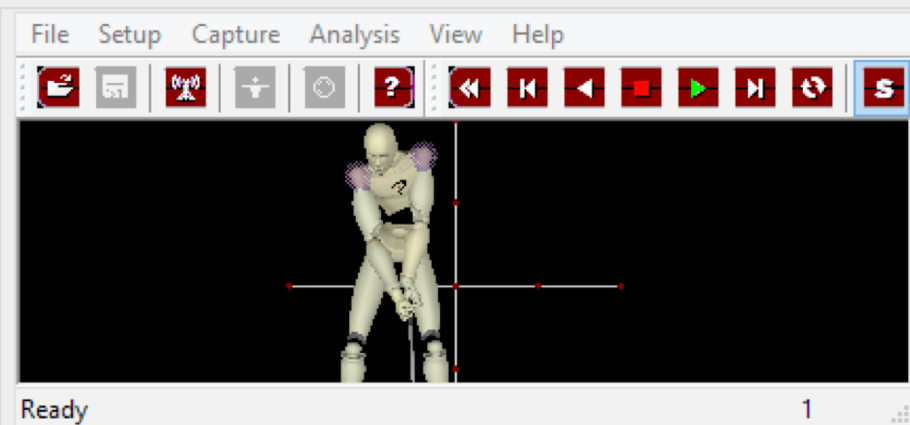
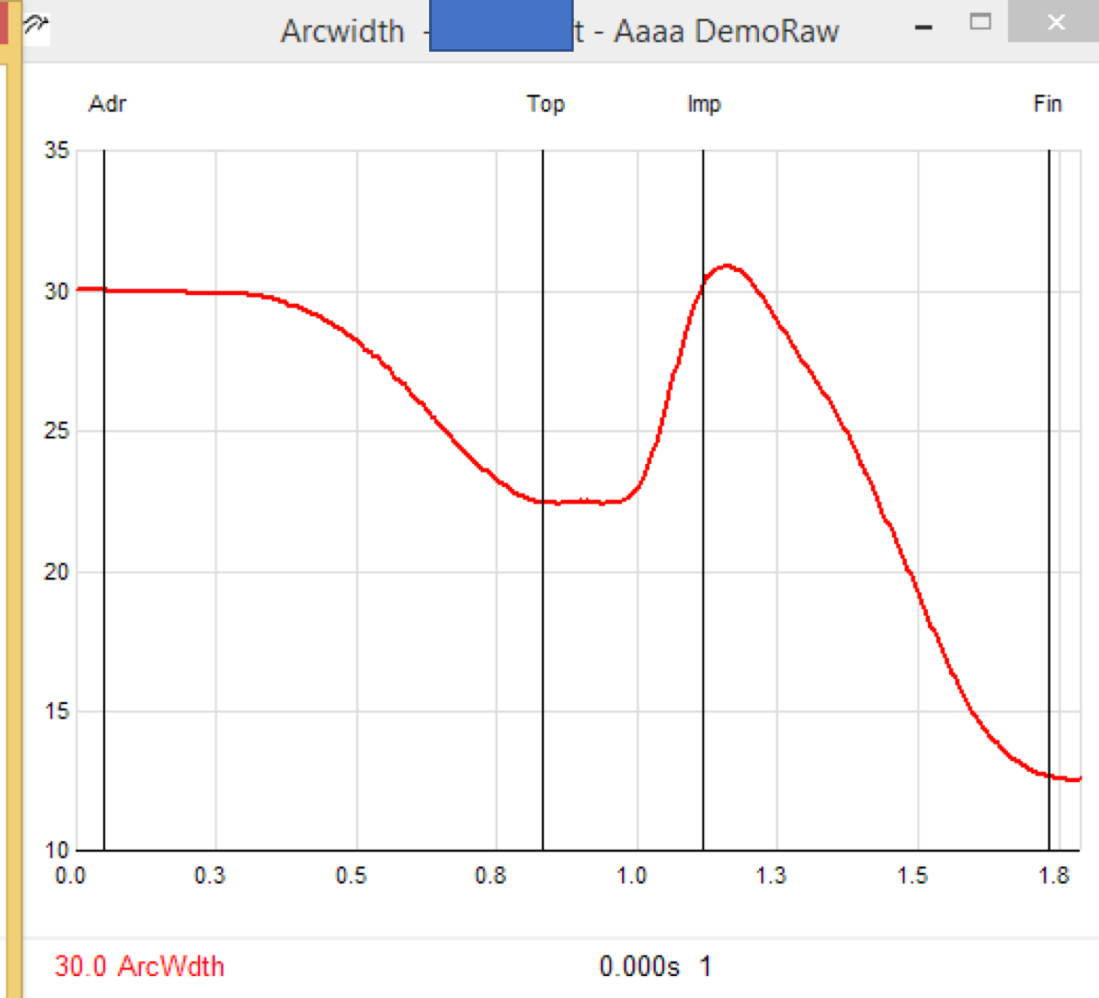
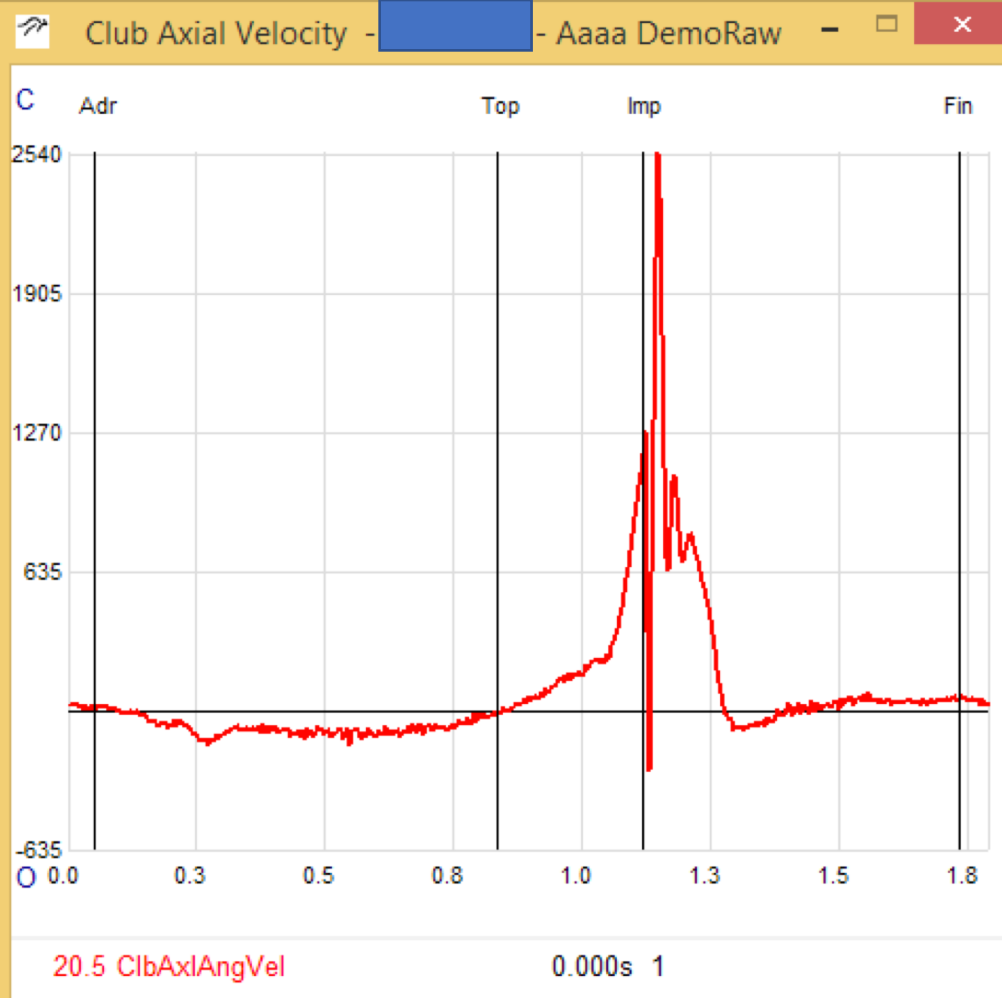


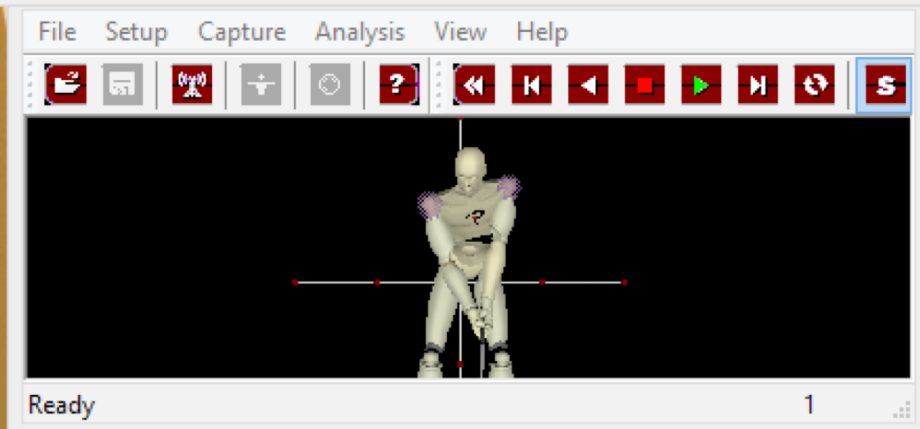
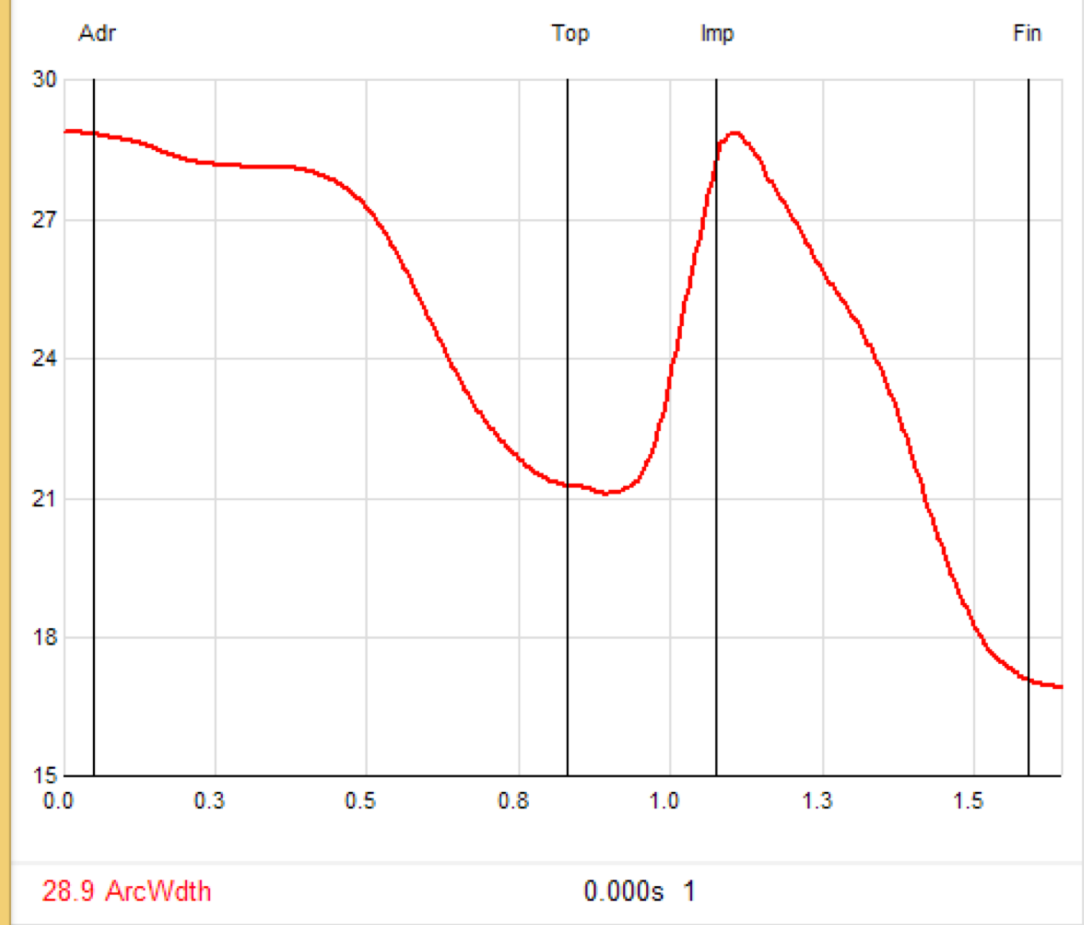
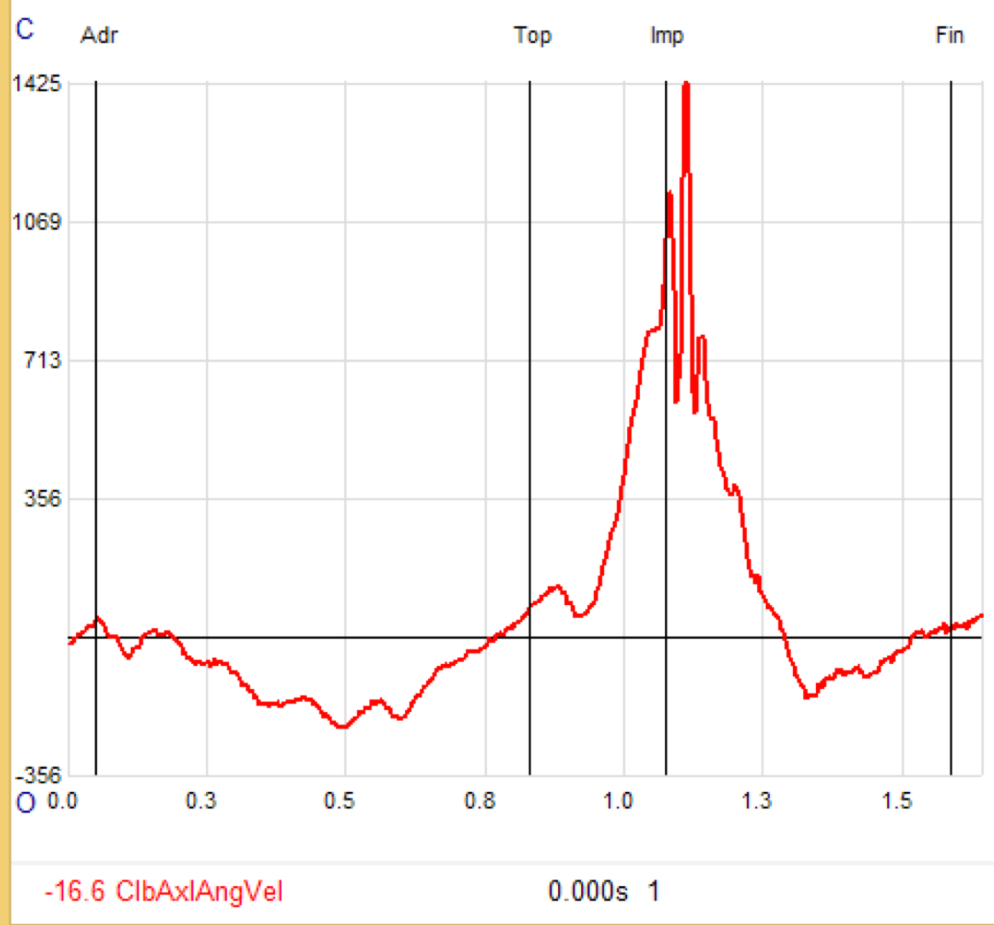


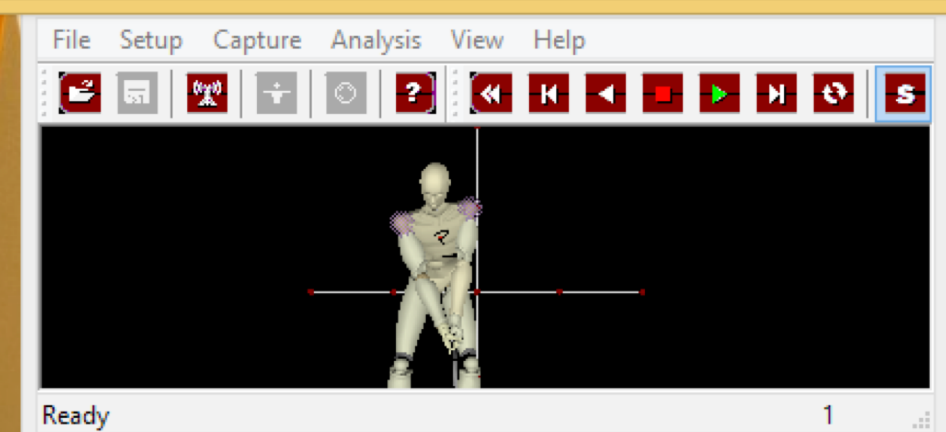
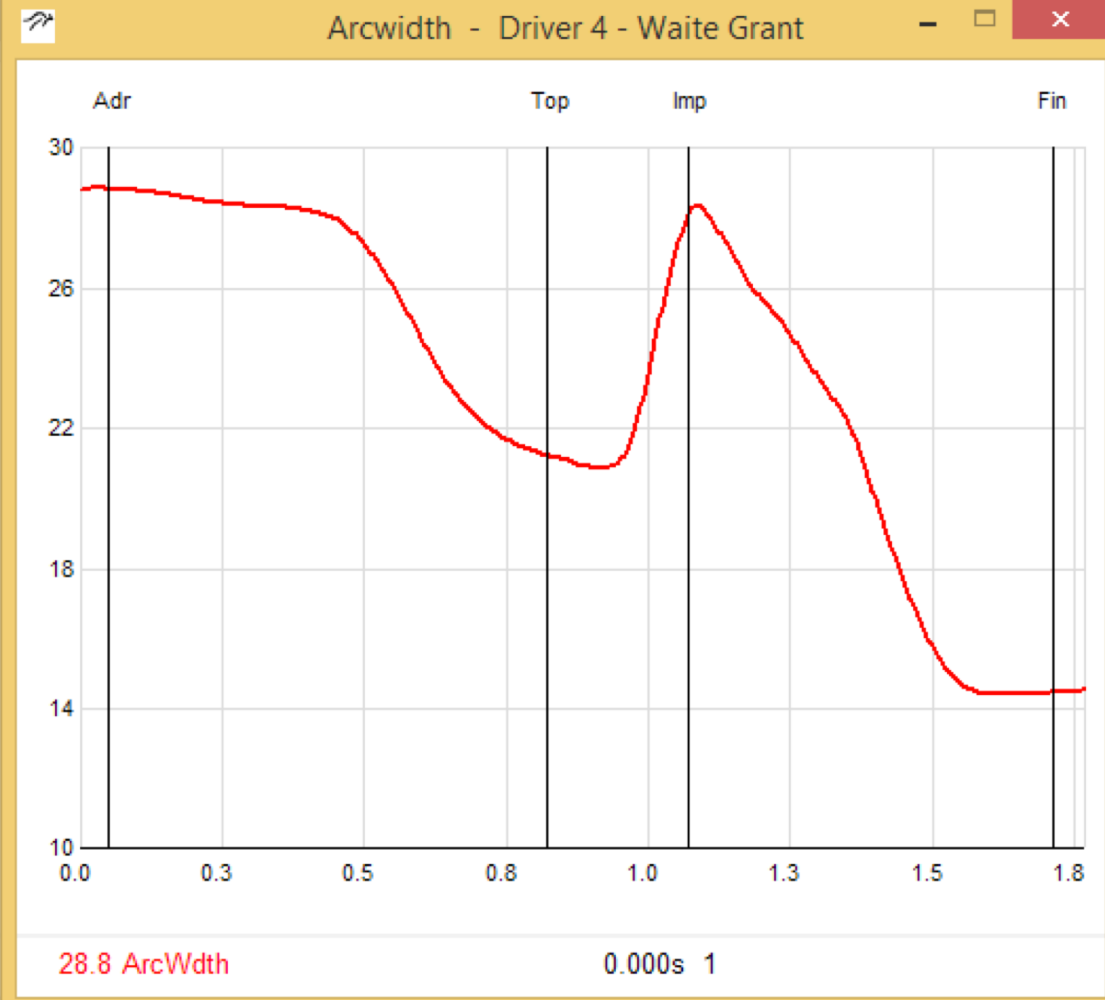
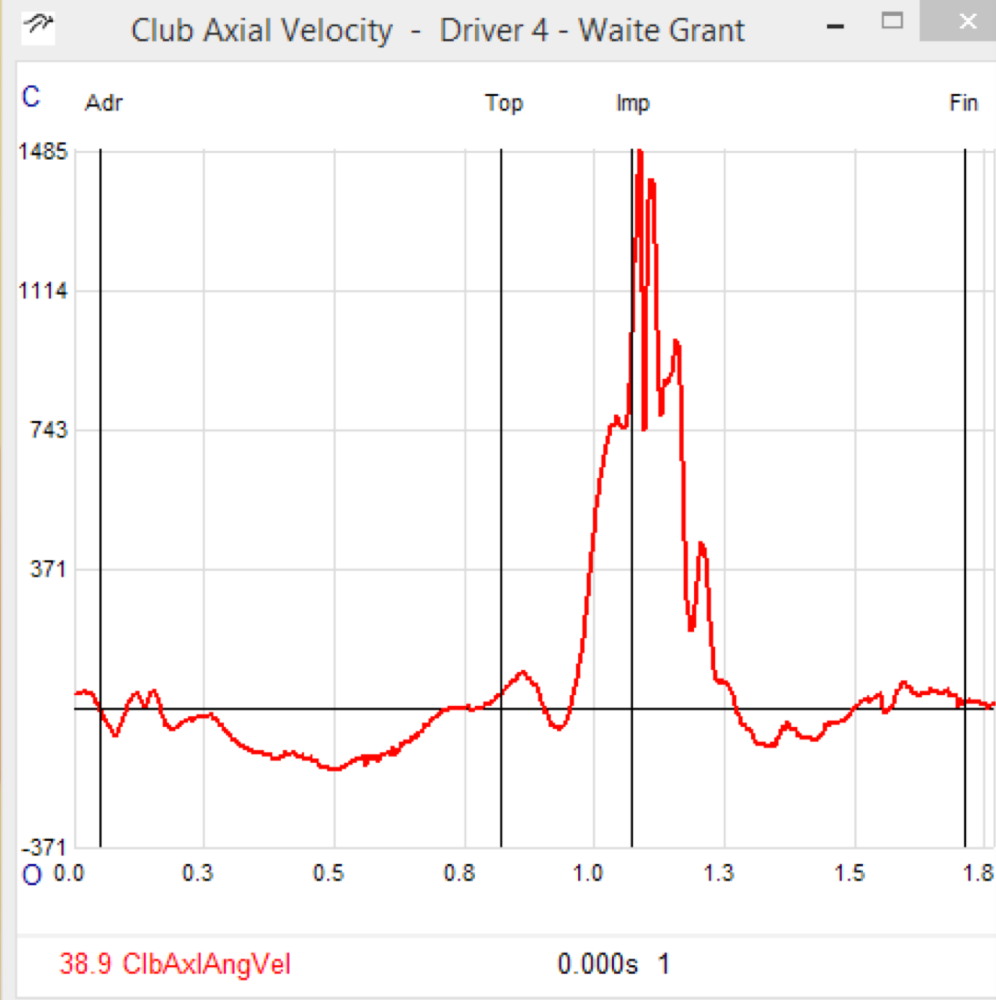




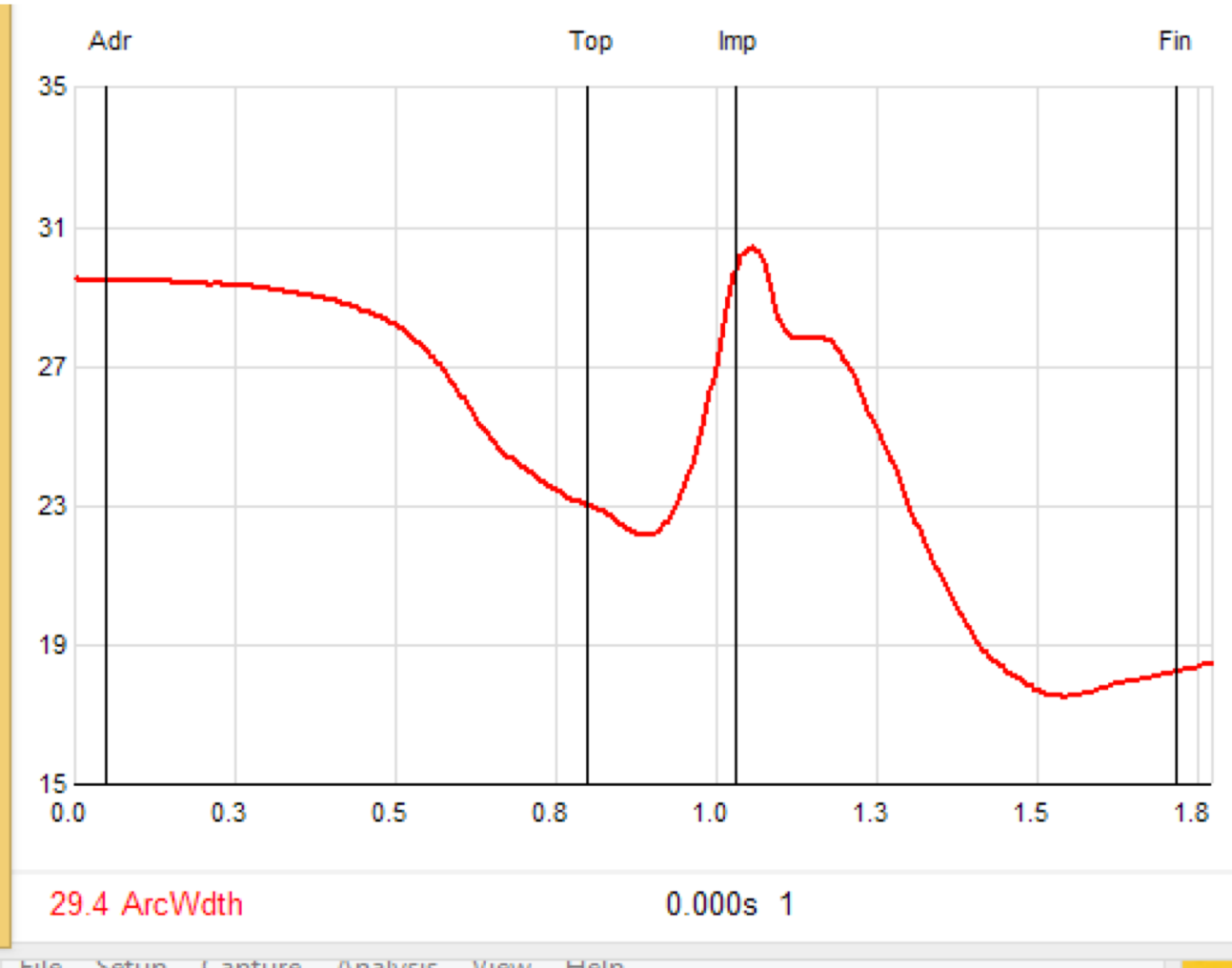
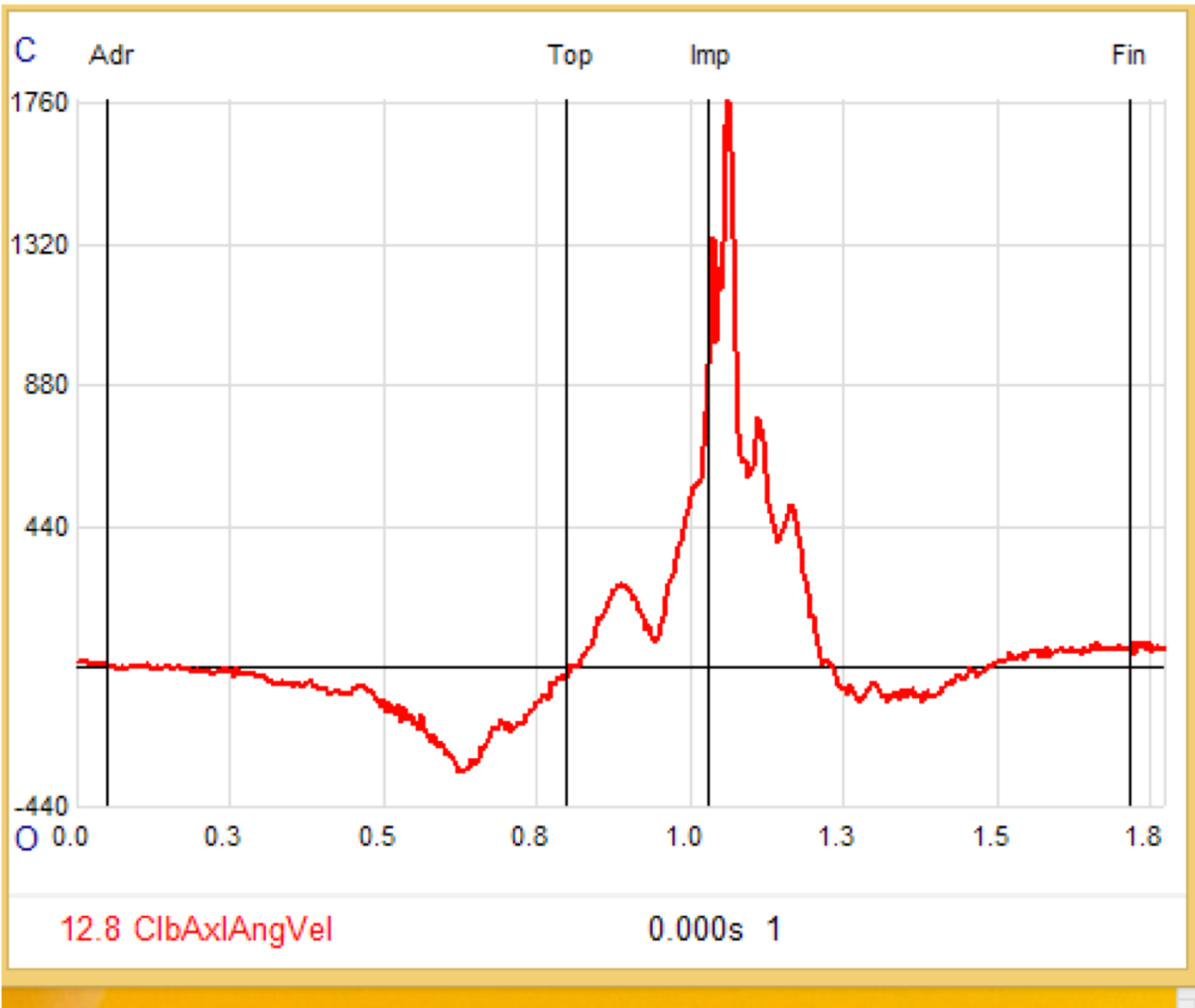


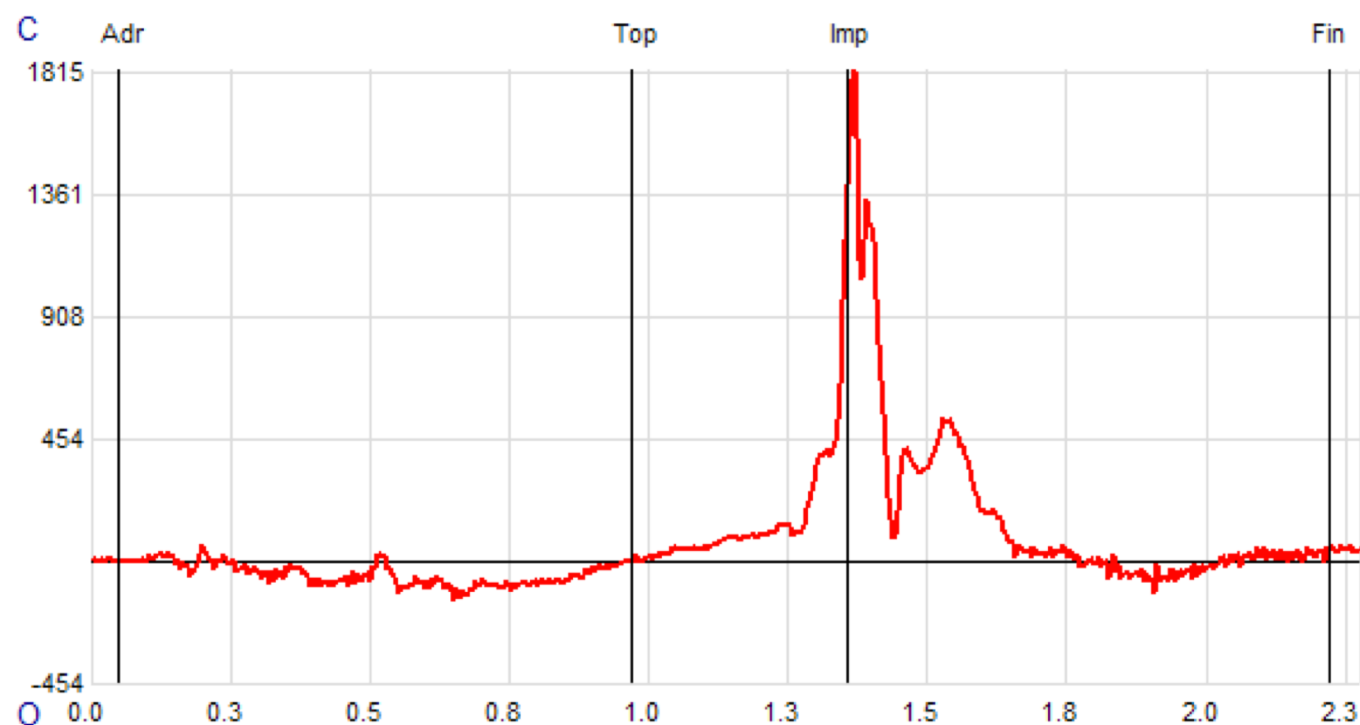






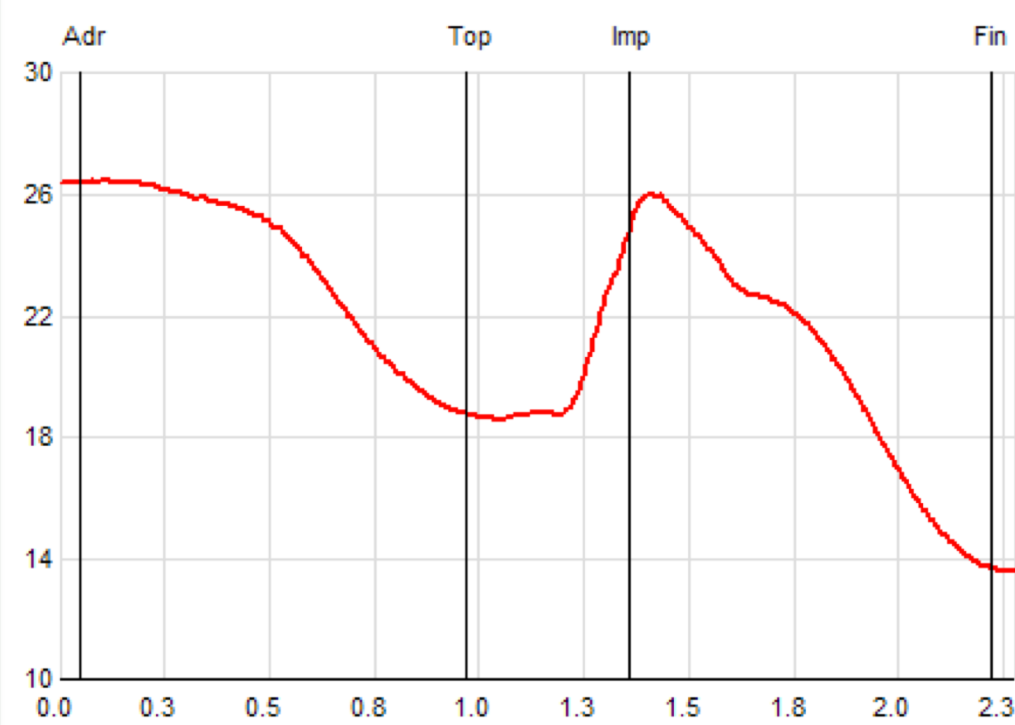
College kids





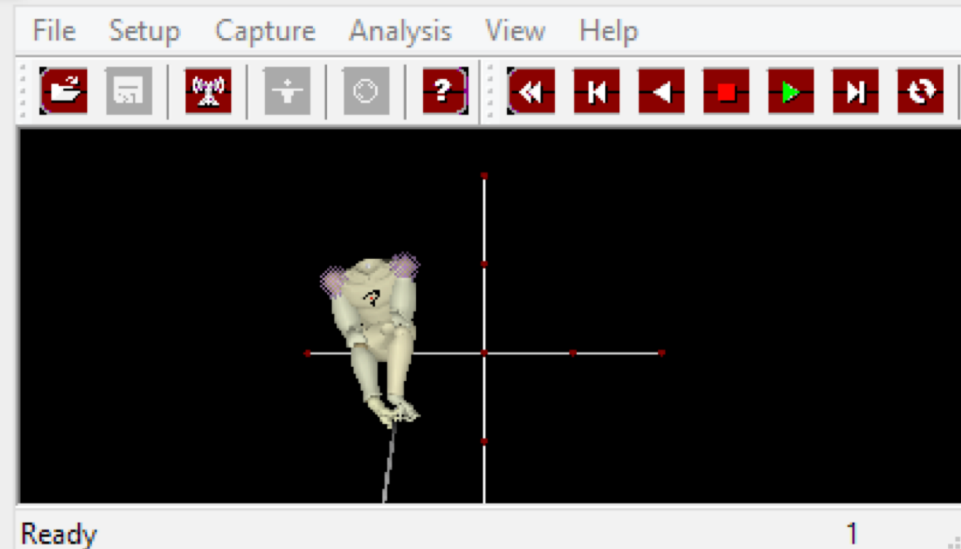
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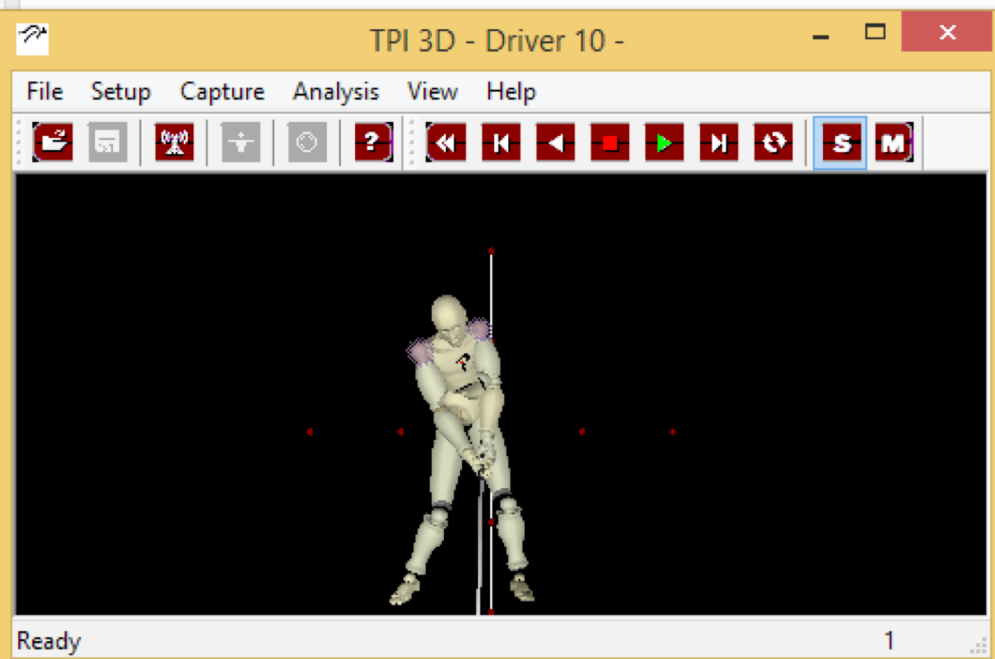
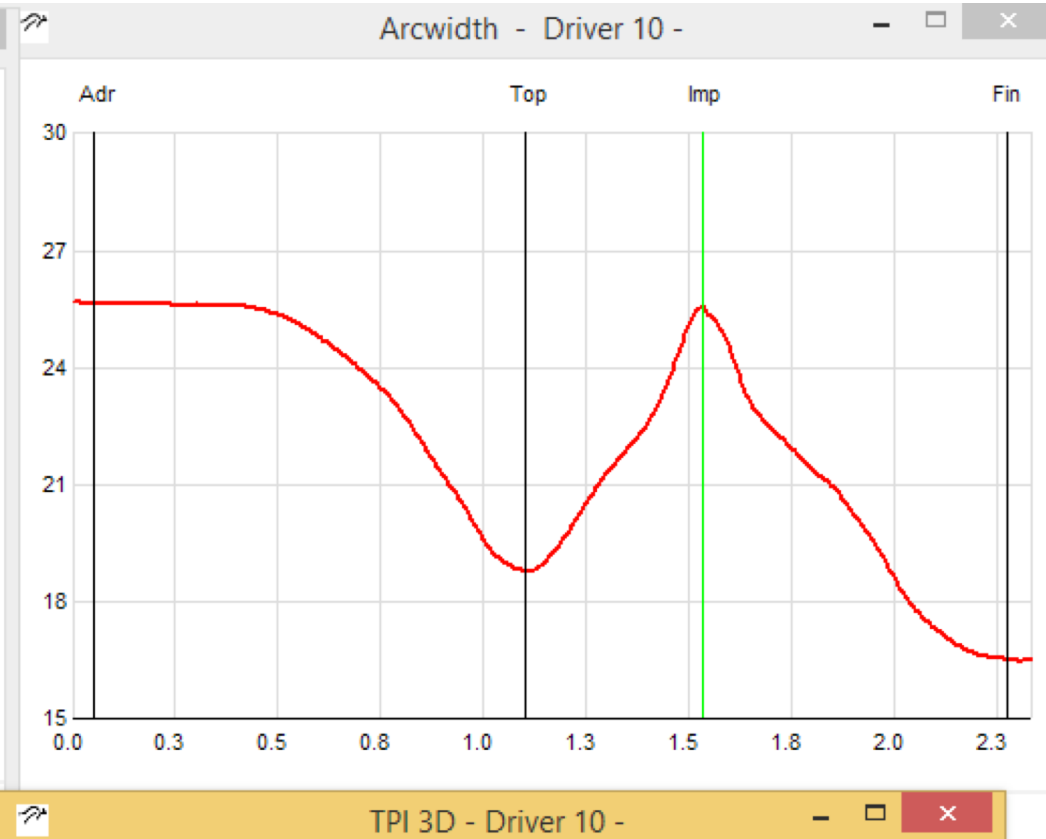
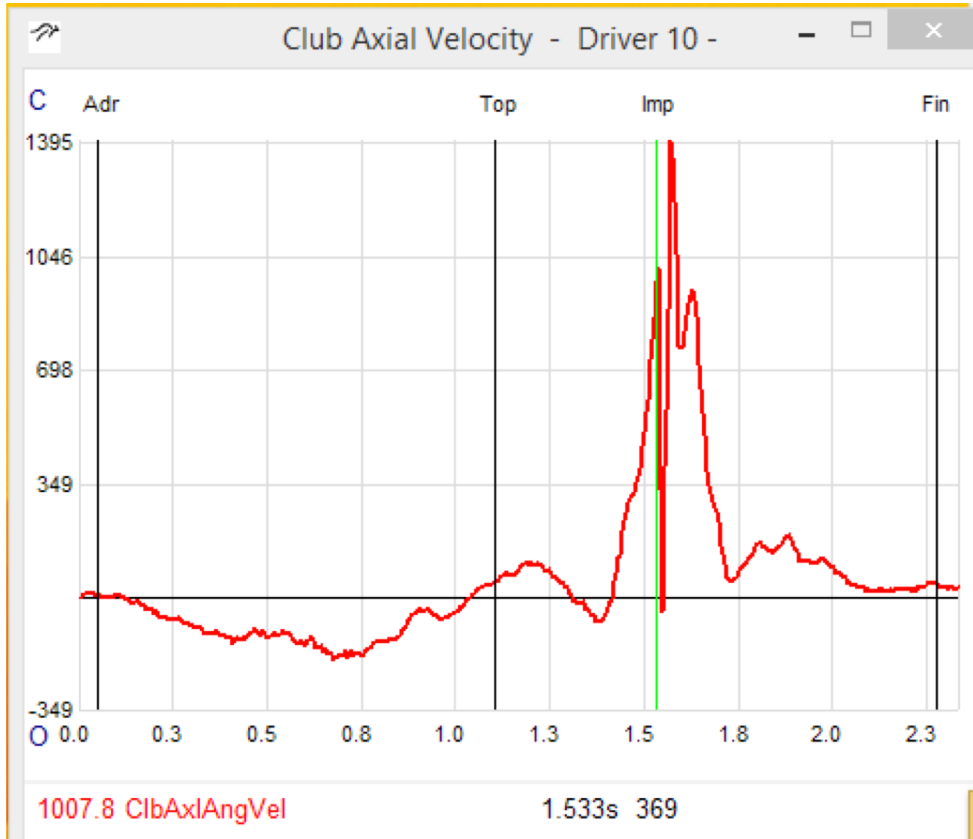


26.4 ArcWidth

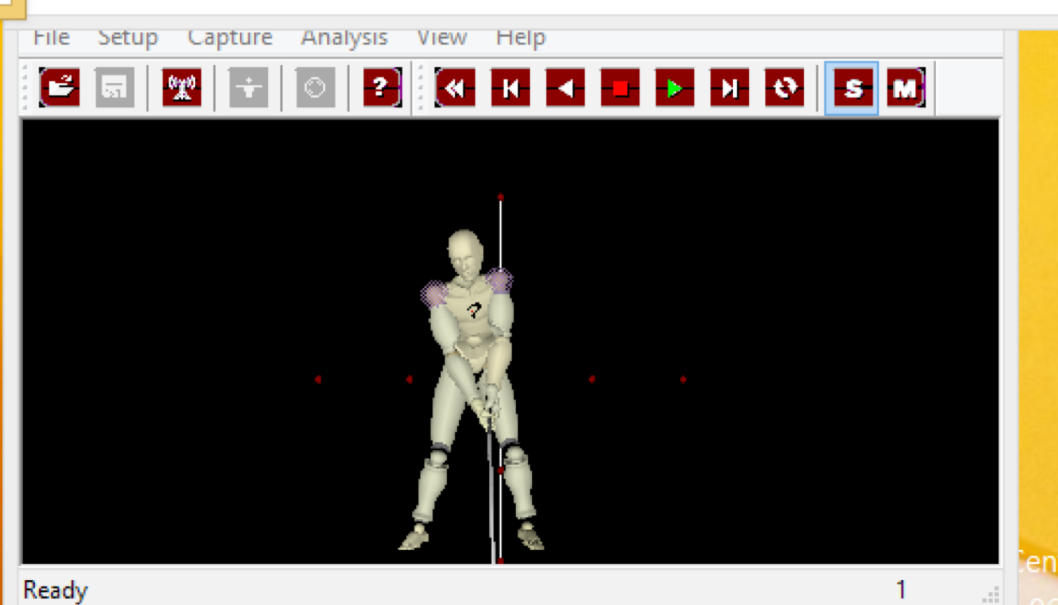
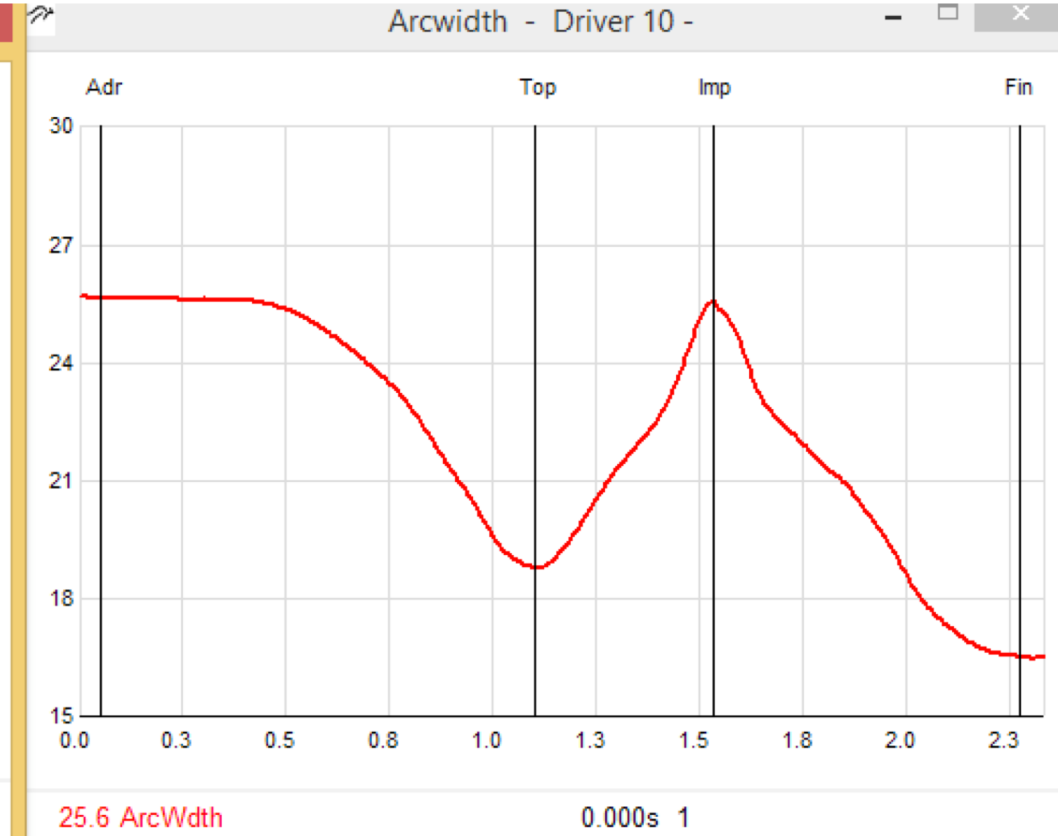
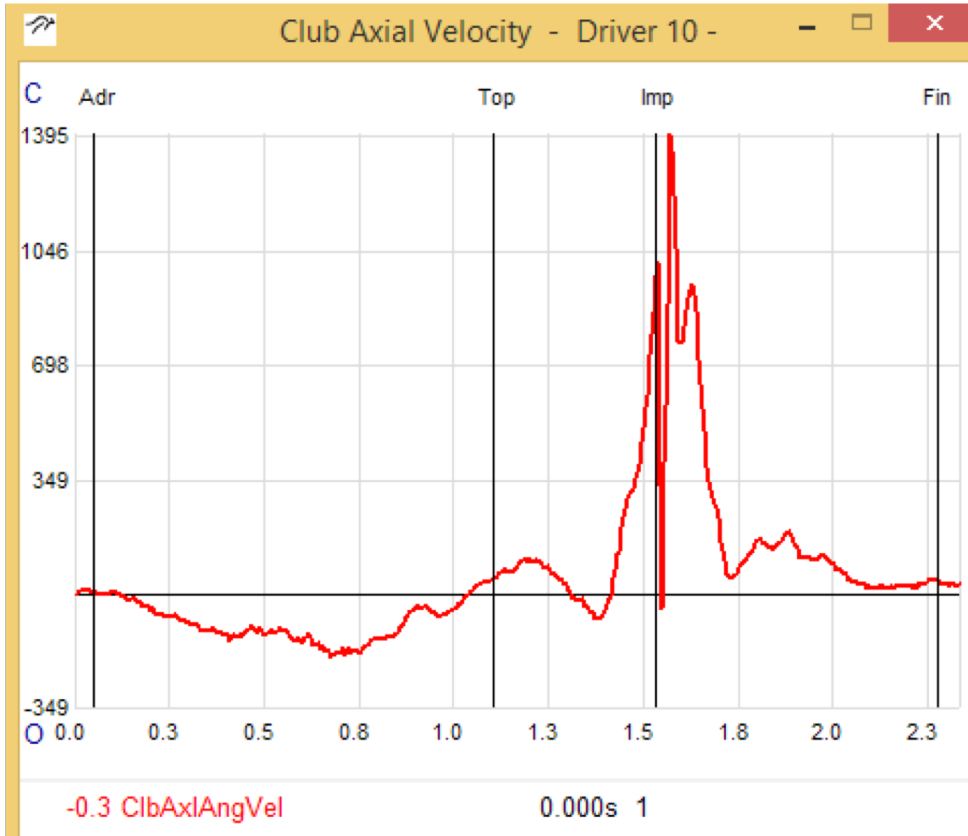
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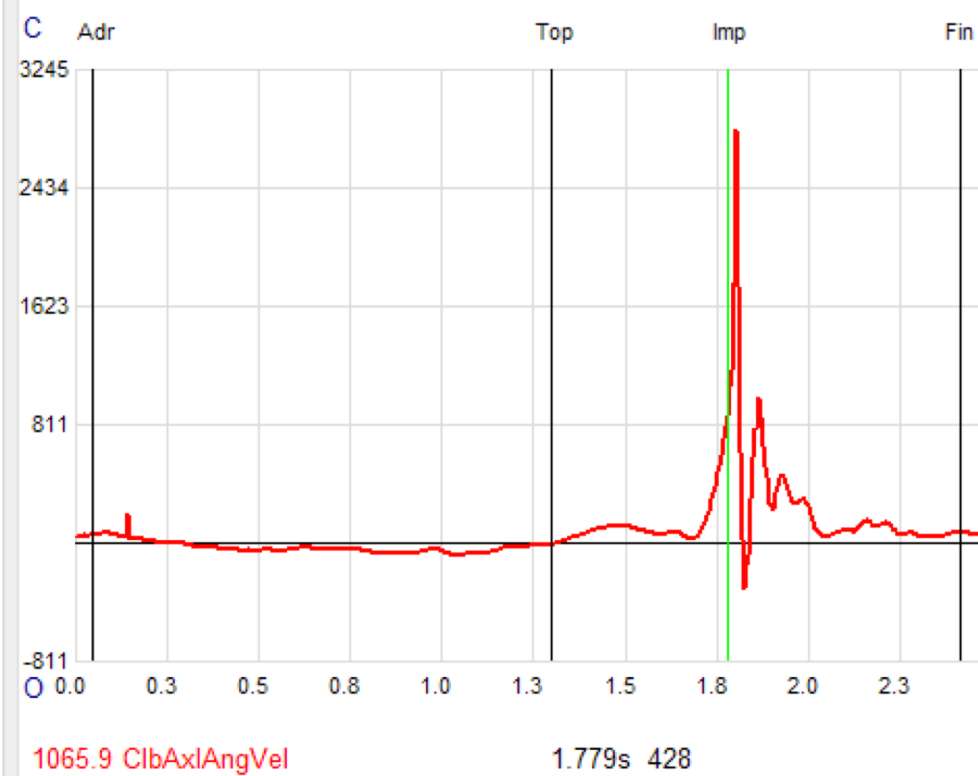
High Handicap



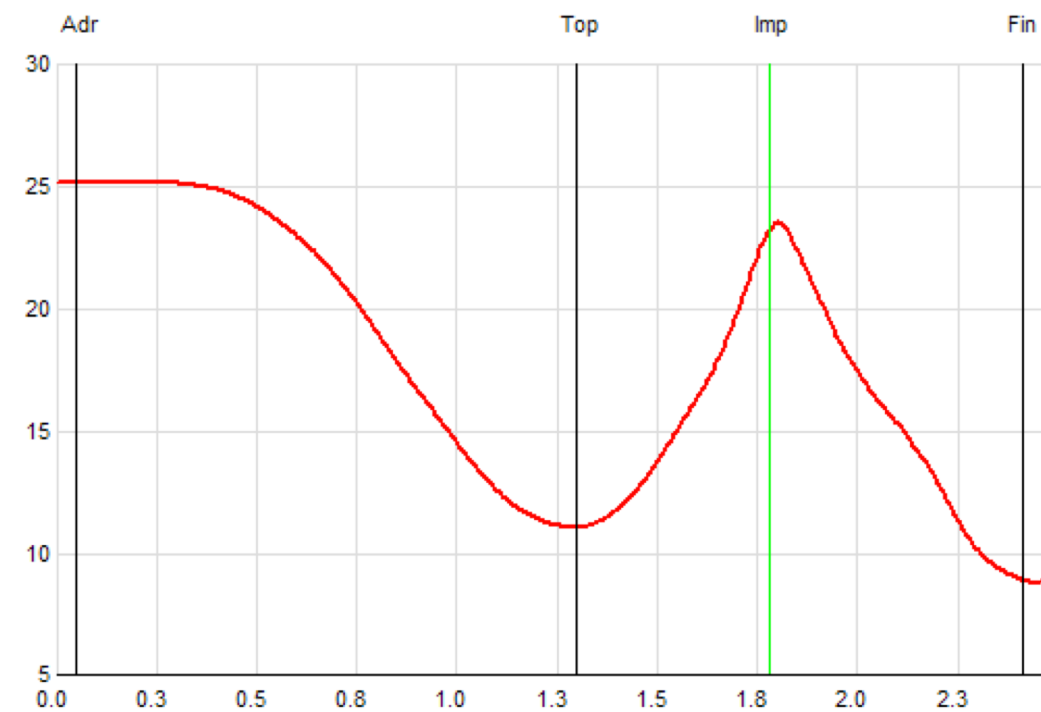




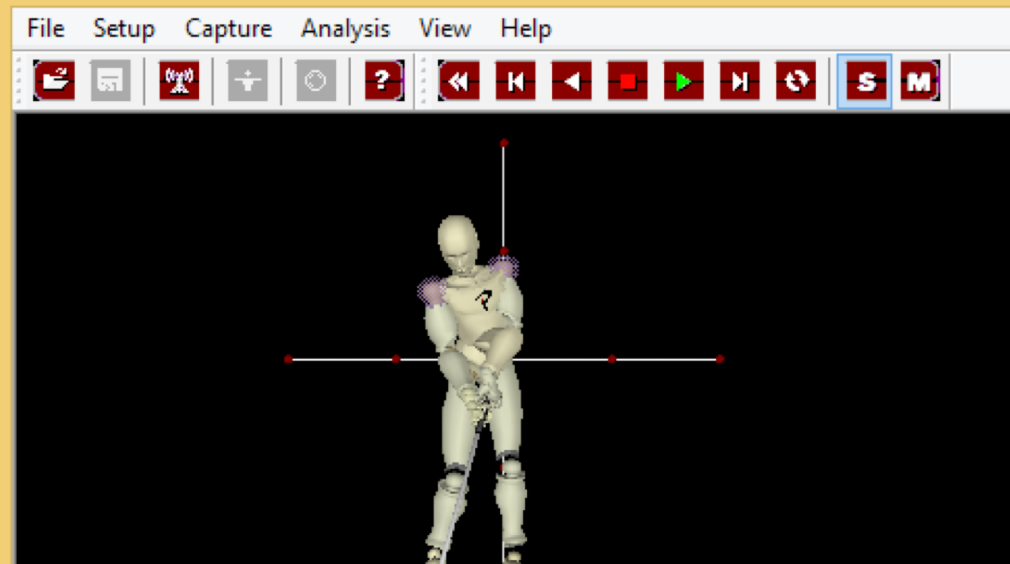
Club Axial Velocity - Driver 2 good -

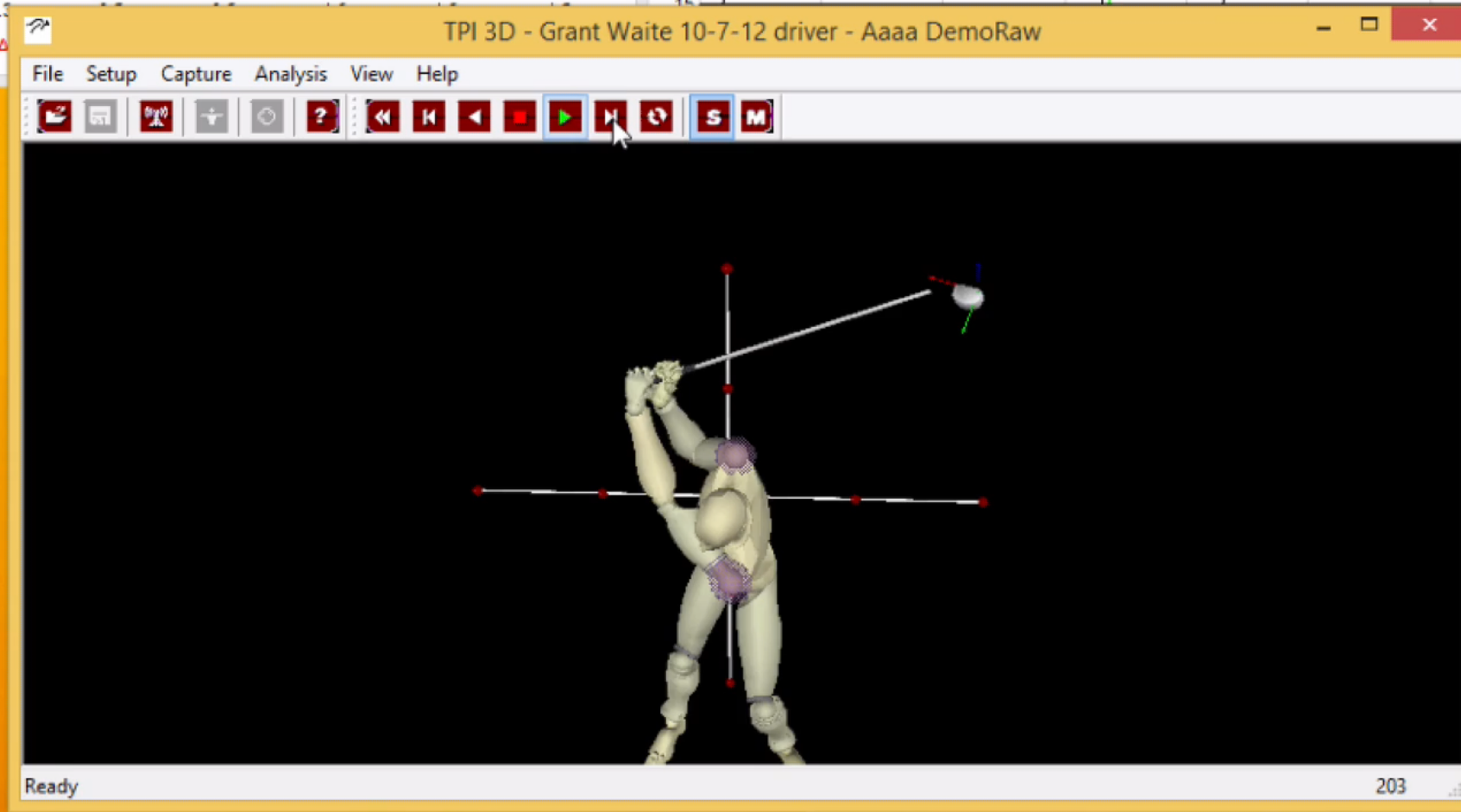
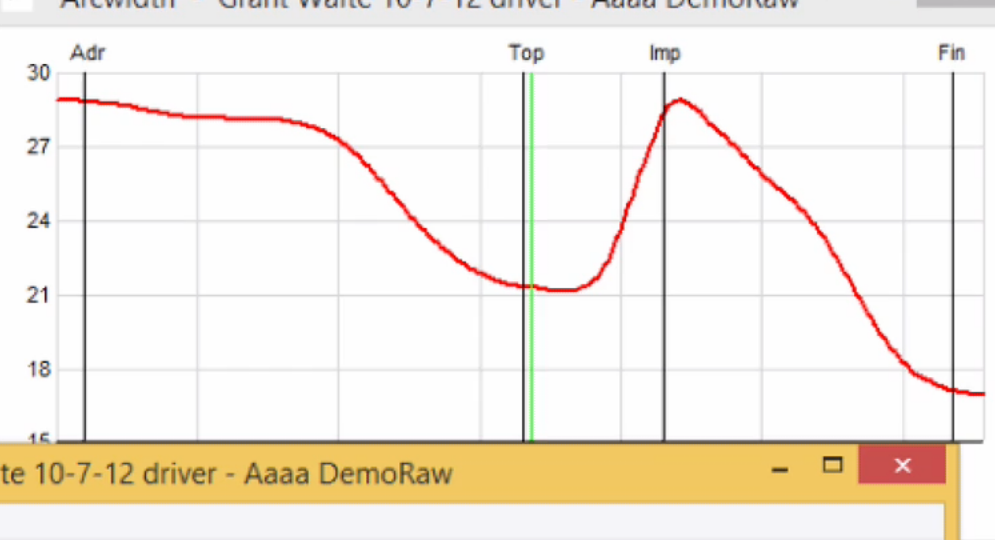
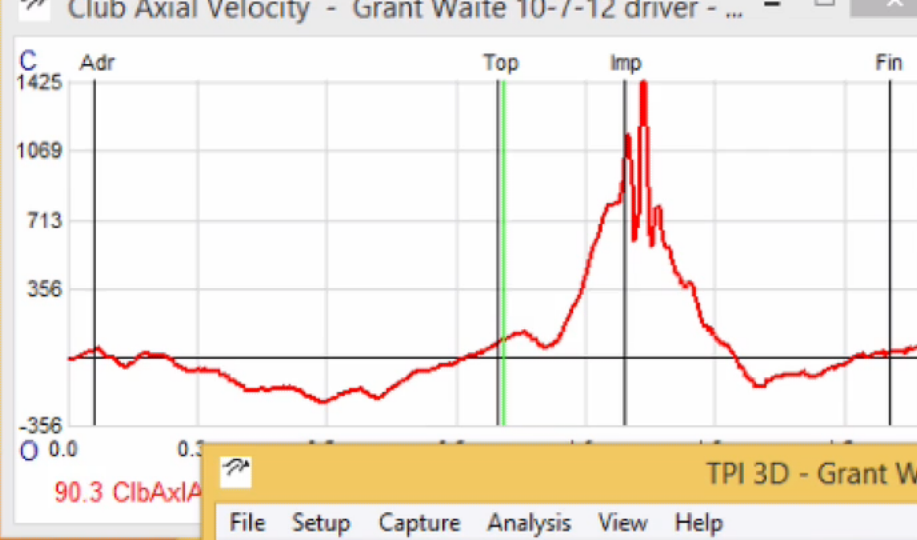


Arcwidth - Driver 2 good -



TPI 3D - Driver 2 good -

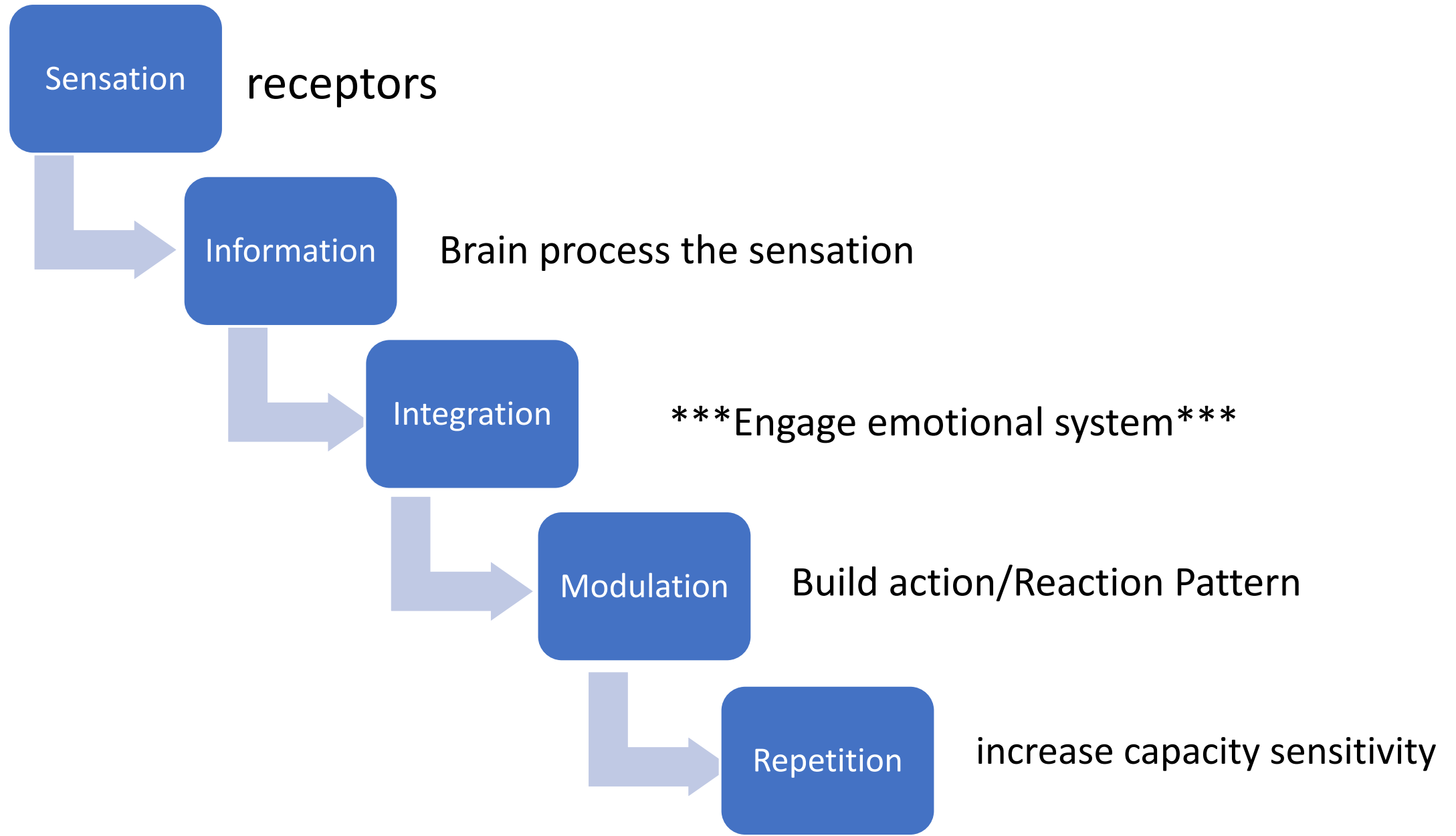




# Teaching Movement is Teaching Awareness

“Speak to the brain, not the client” – Dr. Guy Voyer

# Awareness Scheme Theory – Dr. Guy Voyer



# Receptors send information through the nervous system to the brain

## 1. Chemical

1. Smell/Taste

## 2. Physical

1. Touch
2. Vision
3. Auditory

## 1. Visceral

## 2. Proprioceptors

1. Tendons, muscle tissues

## 3. Pain

## 4. Thermoceptors

2 Keys – Quality of information and integration of emotions

# Managing emotions – let it pass

- Make room for it and let it pass
- Play how you practice, practice how you play

# The recipe for teaching awareness – quality of information

## 4 Stages of awareness training

1. Transcendental Reference – Absolute/fixed reference
2. Receptors – Using sensory information (physical and proprioceptors)
3. Cortical – Internal map only
4. Complex – automatic pattern training



# The recipe applied to golf

## Awareness Stages

1. Transcendental Ref – Shafts in the ground, objects, brain cannot argue with!
2. Receptors – Video, Instructor touch,
3. Cortical – golfers own brain, "what wasn't right on that one?"
4. Complex – doing two things at once, less conscious

“To master a global movement,  
master all segments involved”

Dr. Guy Voyer

# Gym Training Aids

- Closed Kinetic Chain
  - Slow it down
  - Exaggerate
  - Add resistance
  - Train antagonist muscles
  - Train timing
- 
- In season - close to the pattern
  - out of season - complements



# Q&A – Jon

- Can you explain how you look at match ups in the swing
- - With all of the 3d you have seen on tour players, what are similarities you see in the backswing?
- - How much does the pelvis drop on average for a full swing in the downswing?
- - How much does the head move in the backswing on average?
- - How much does the trail knee straighten in the backswing and what causes that?



# Case Study – European Challenge Tour























Putter 9-3



























# John Dunigan – Hole it

- 3 essential skills – Speed/Line/Read
- Sean O’Hair – “stop trying to make putts and focus only on trying to make the the ball stop one foot beyond the cup. “
- Web.com finals - “I couldn’t even breathe out there!” – Doing your job in the face of fear! – Emotions don’t go away!
- Each practice – no less than 2 short putt and 2 lag putt exercises

# John Dunigan – Hole it

- Purposefully create errors to enhance learning
- 3 R's Read, Roll, Reflect
  - “The reflection process includes thinking back to what you had in mind both before and during the stroke, and what you felt upon observing the result”
  - Very important not to try and “fix” every missed putt
- In practice, I am far less tolerant of errors than I am in play.
- Negativity shuts down learning – it turns errors into threats rather than learning opportunities.

# John Dunigan – Hole it

- Consistency is not coming
- Reading greens is easy. Starting online is a little harder. Controlling speed takes work.
- Speed – Stroke Length, Rhythm, Timing
- Metronome – 76 beats, then 82 play around and find your optimal

# John Dunigan – Hole it

- “I don’t see lines, I see cones”
- Seeing putts –
- Entry point, aim point, aim then entry, start line

