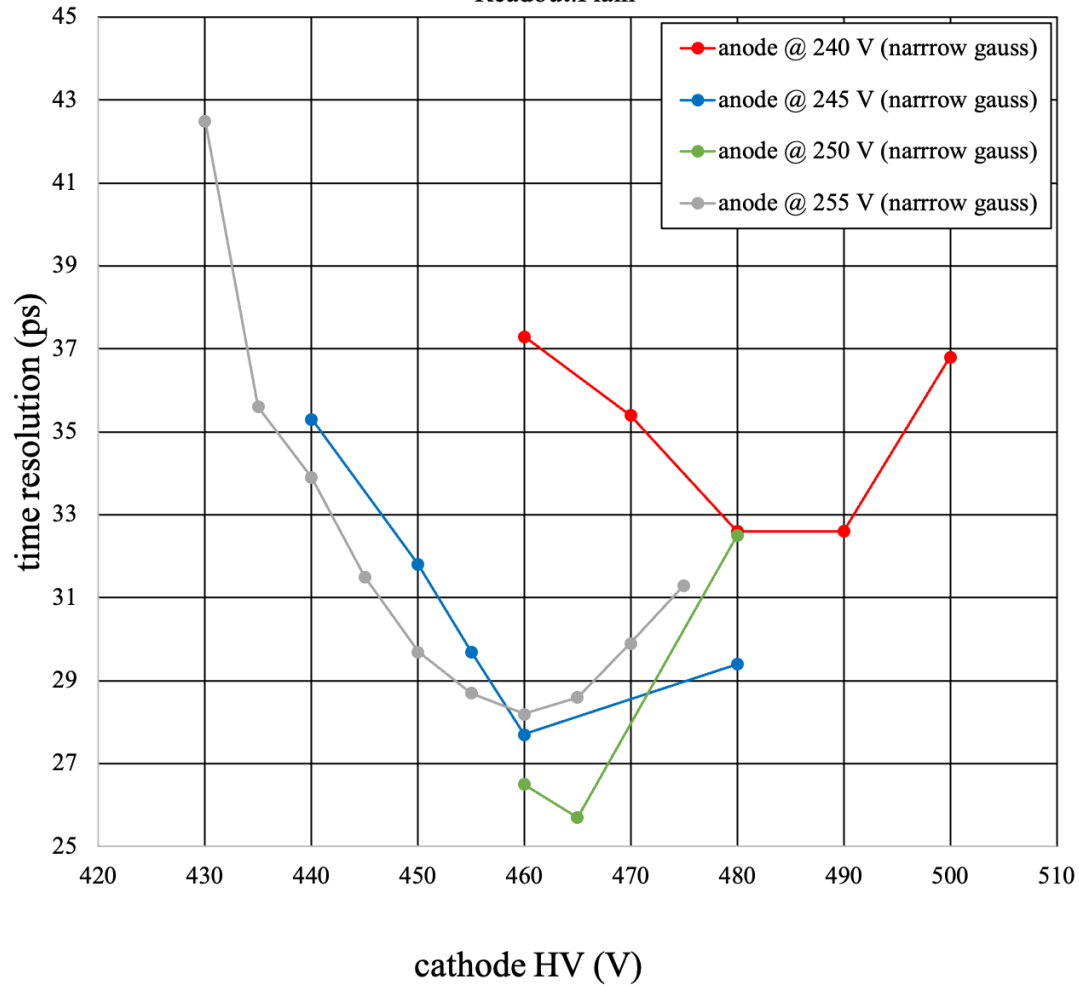


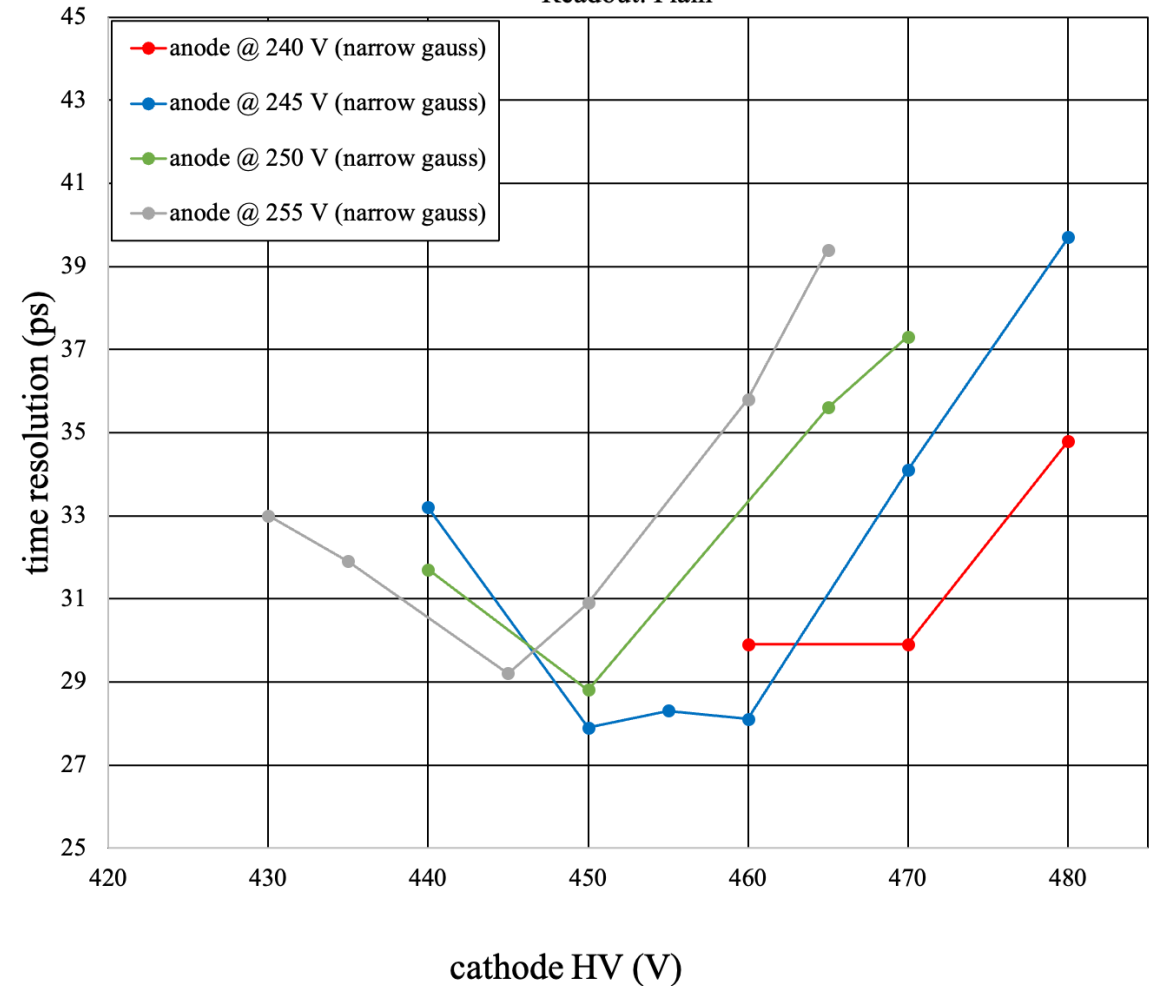
Single channel uRWELL PICOSEC prototypes

Analysis results
(June 2024 test beam)

μ RWELL-PICOSEC5: Round 120-100-80 - CsI - spacer 170 μ m
Readout: Plain

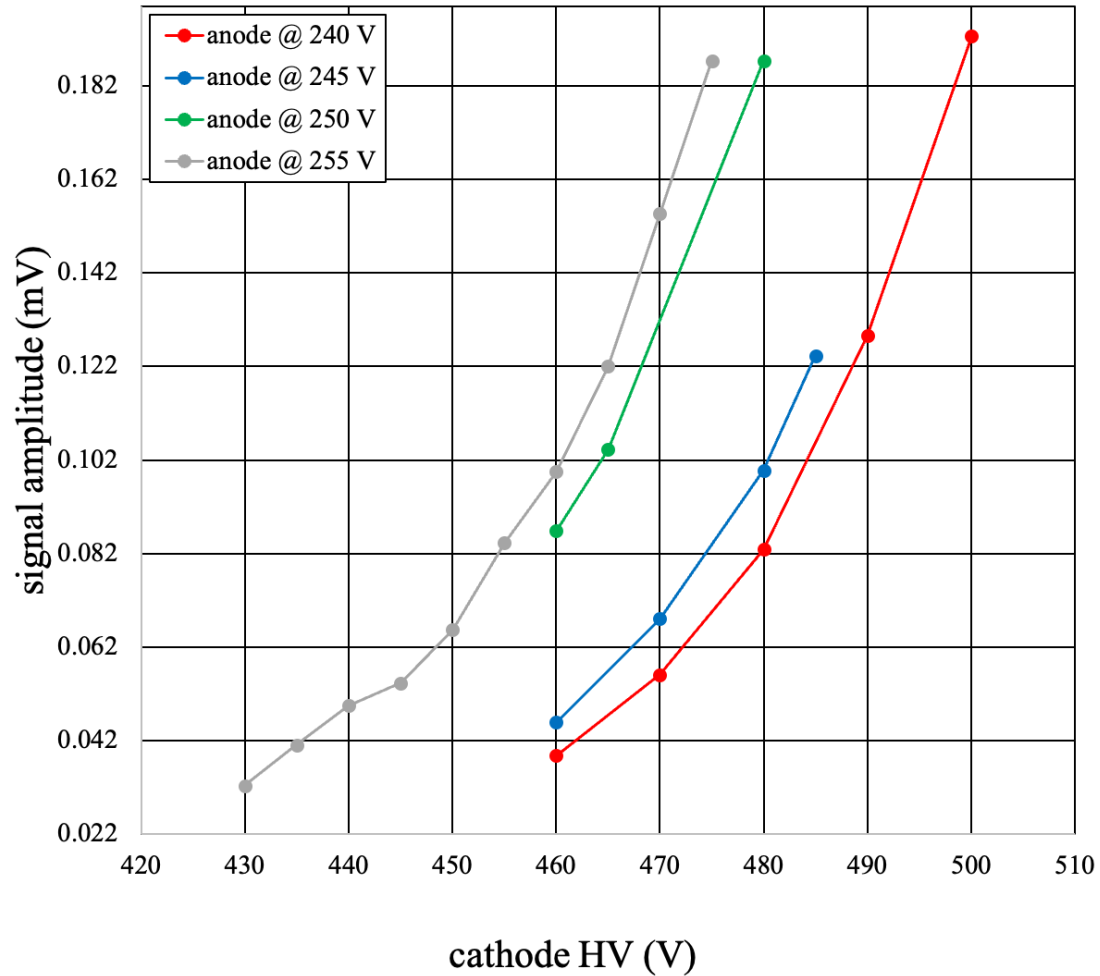


μ RWELL-PICOSEC1: Square 120-100-80 - CsI - spacer 170 μ m
Readout: Plain

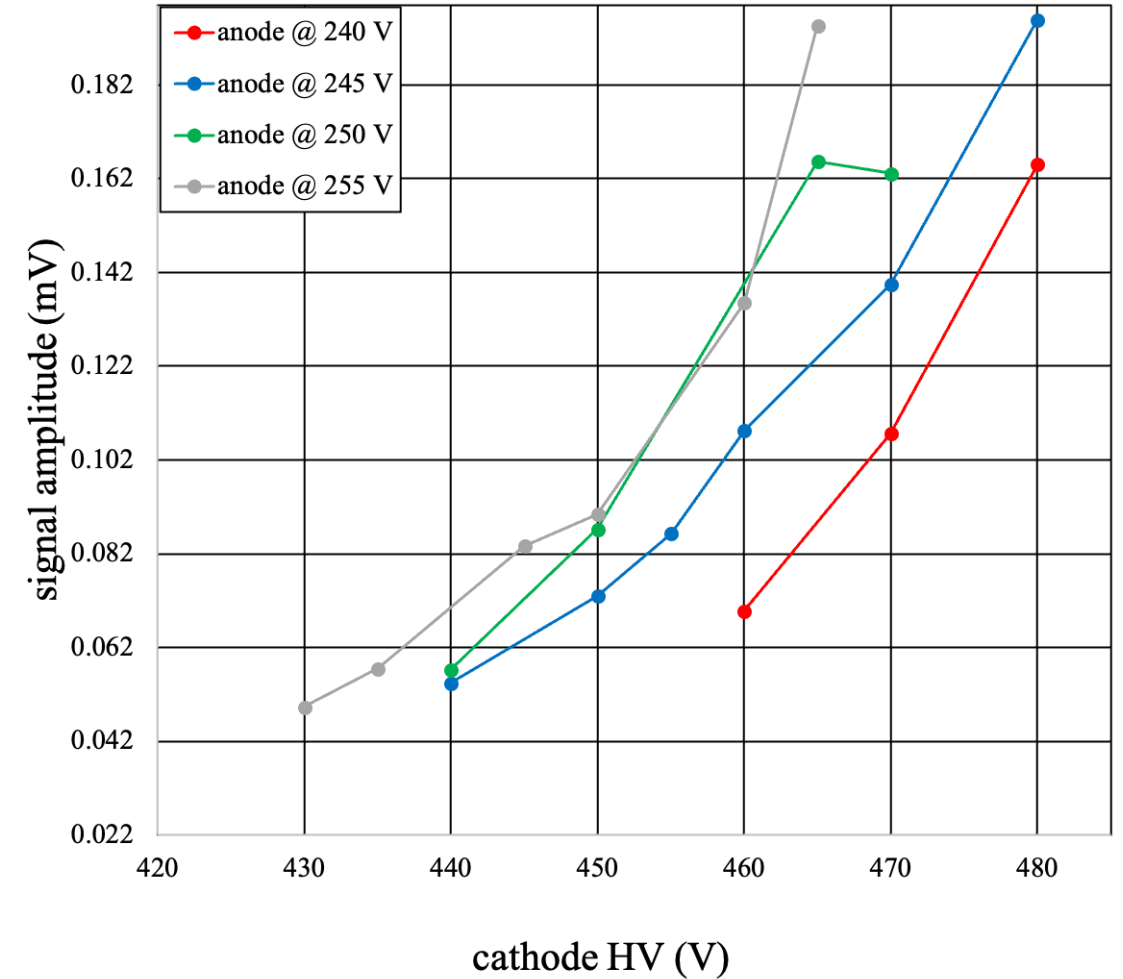


Hole shape: Round vs Square

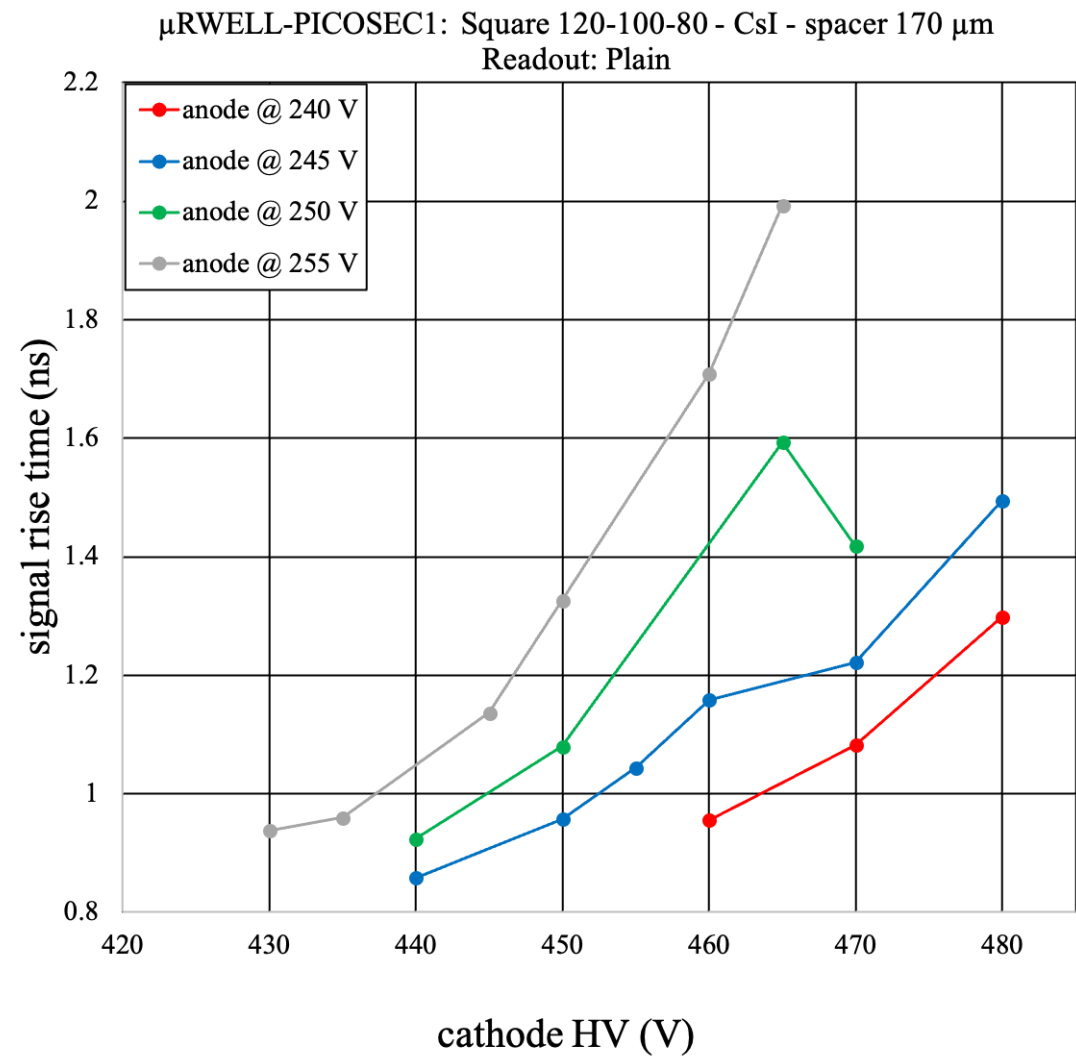
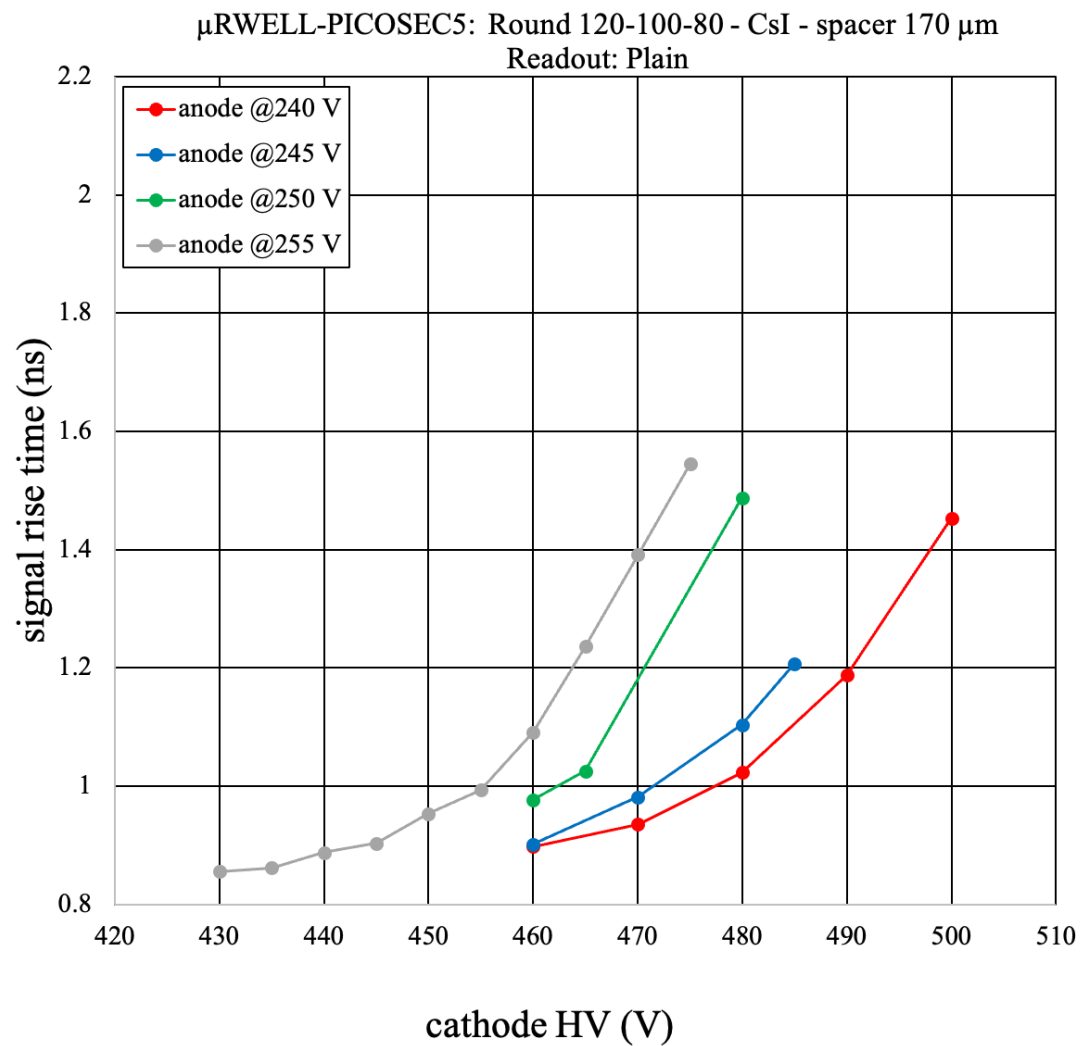
μ RWELL-PICOSEC5: Round 120-100-80 - CsI - spacer 170 μ m
Readout: Plain



μ RWELL-PICOSEC1: Square 120-100-80 - CsI - spacer 170 μ m
Readout: Plain

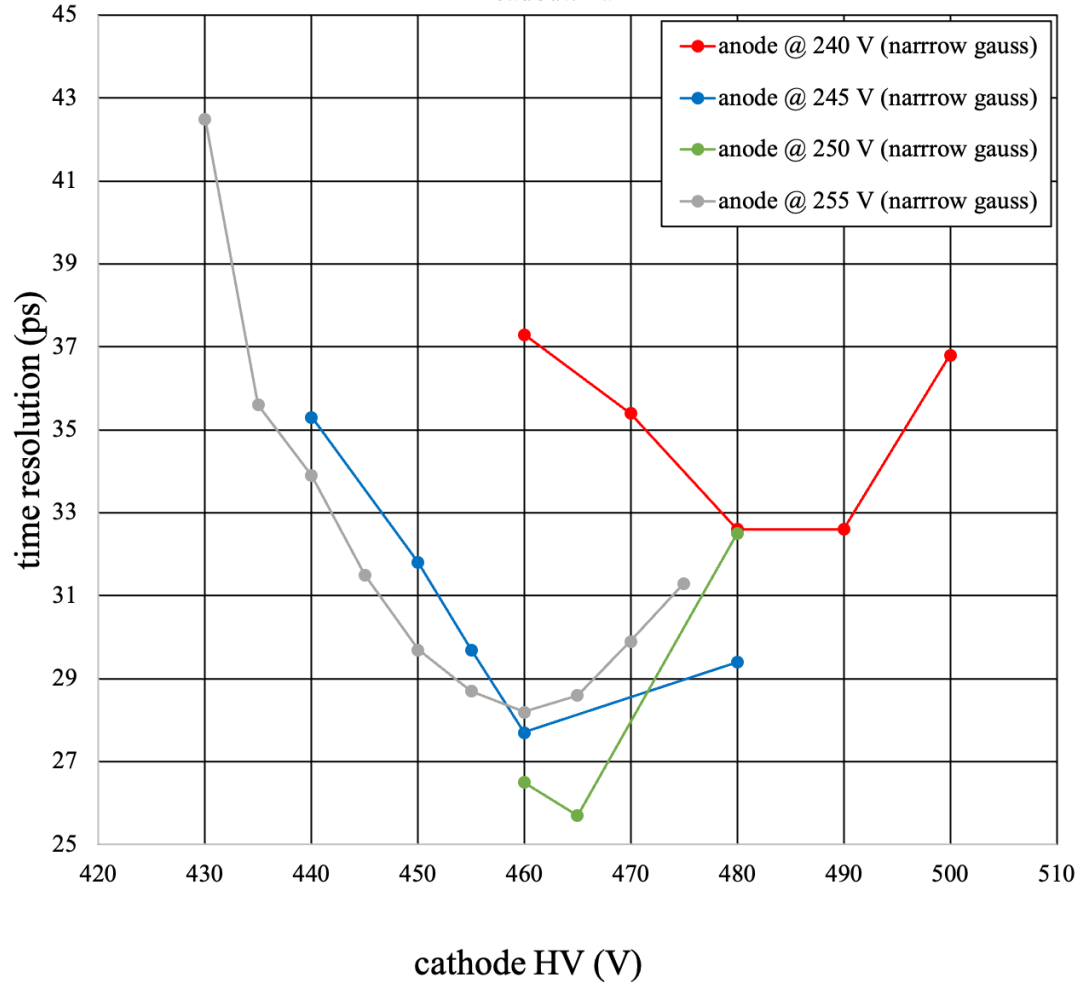


Hole shape: Round vs Square

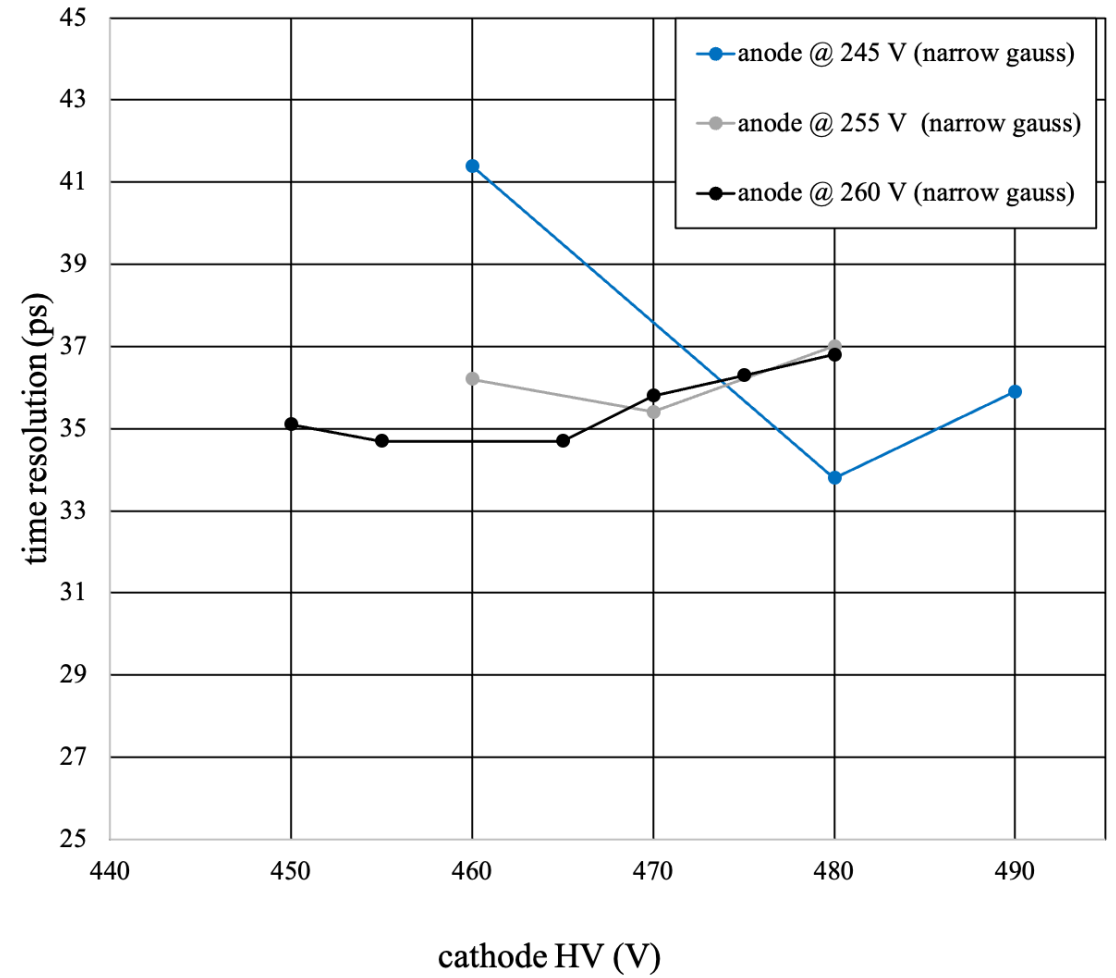


Hole shape: Round vs Square

μ RWELL-PICOSEC5: Round 120-100-80 - CsI - spacer 170 μ m
Readout: Plain

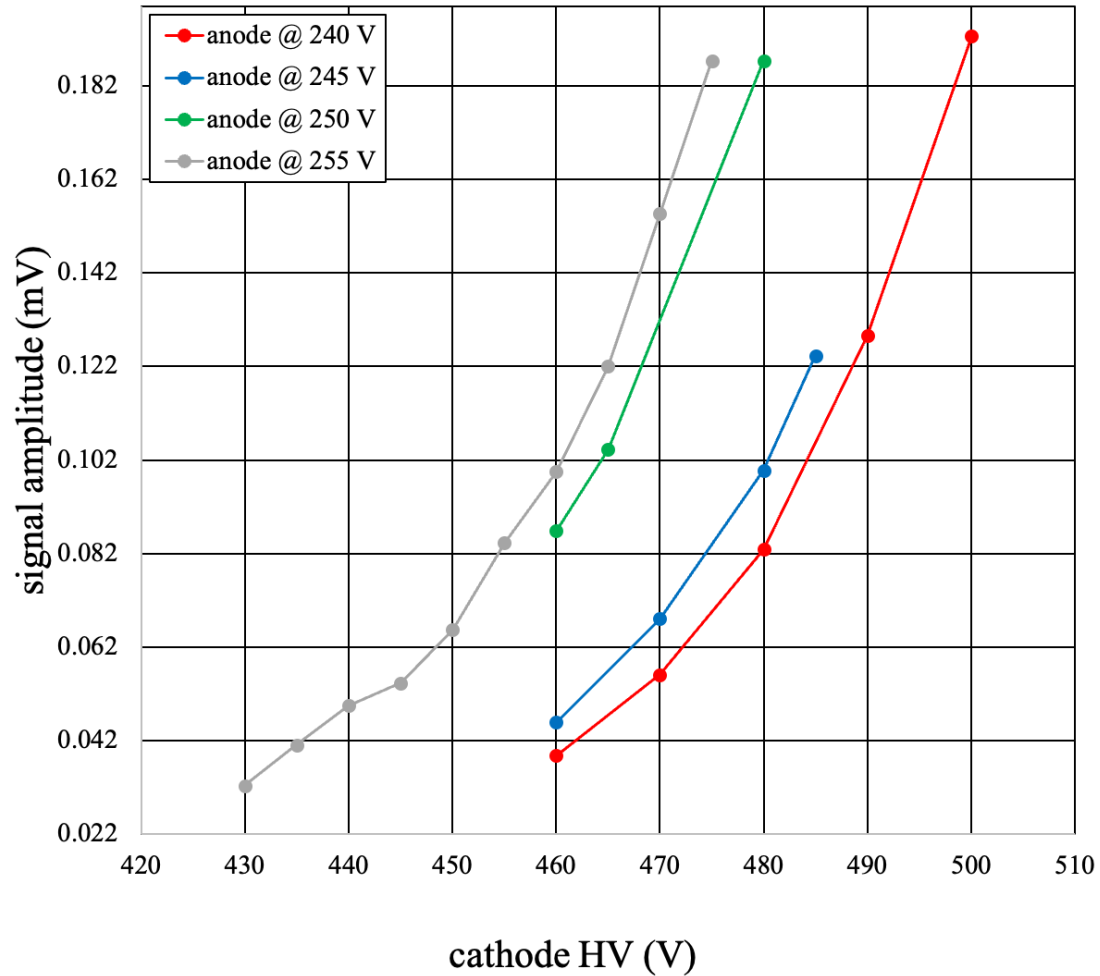


μ RWELL-PICOSEC7: Round 120-100-80 - CsI - spacer 170 μ m
Readout: Grided

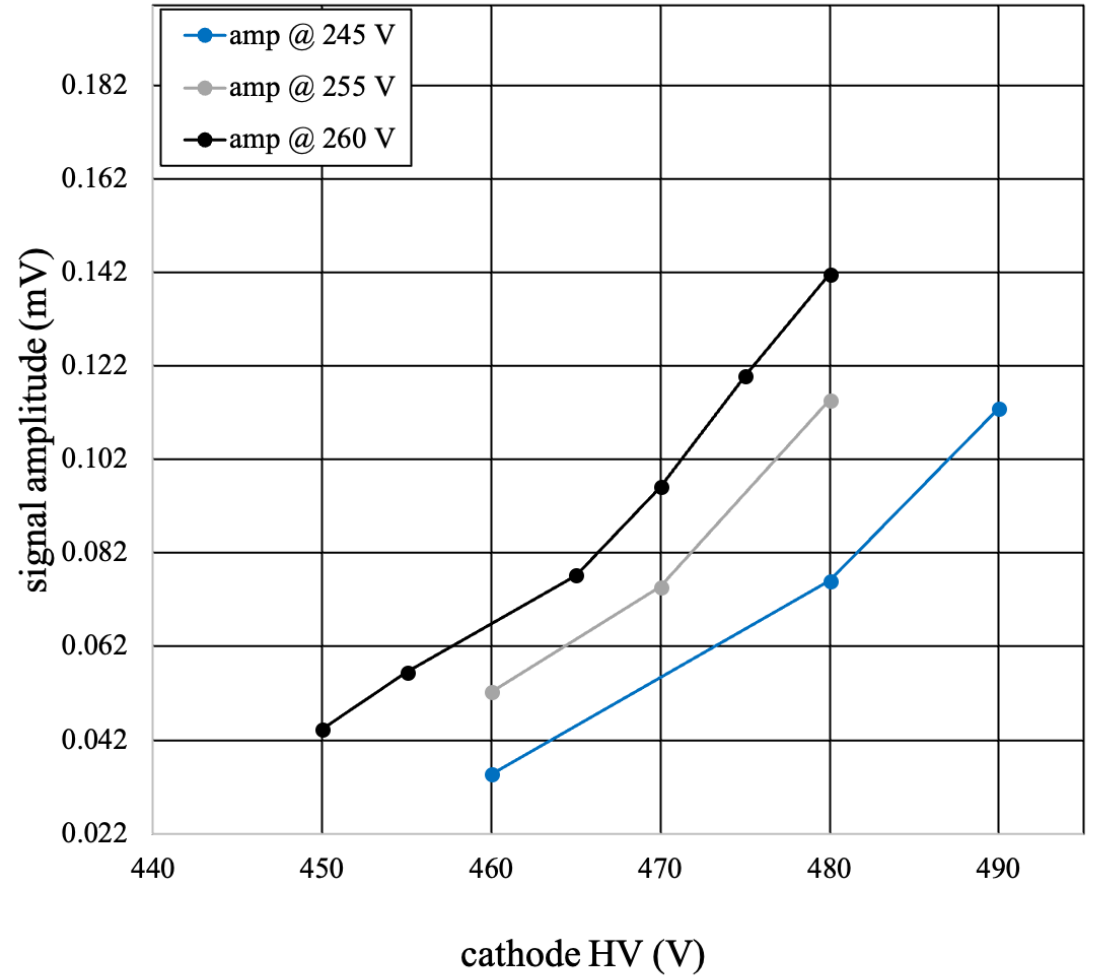


Readout: Plain vs Grided

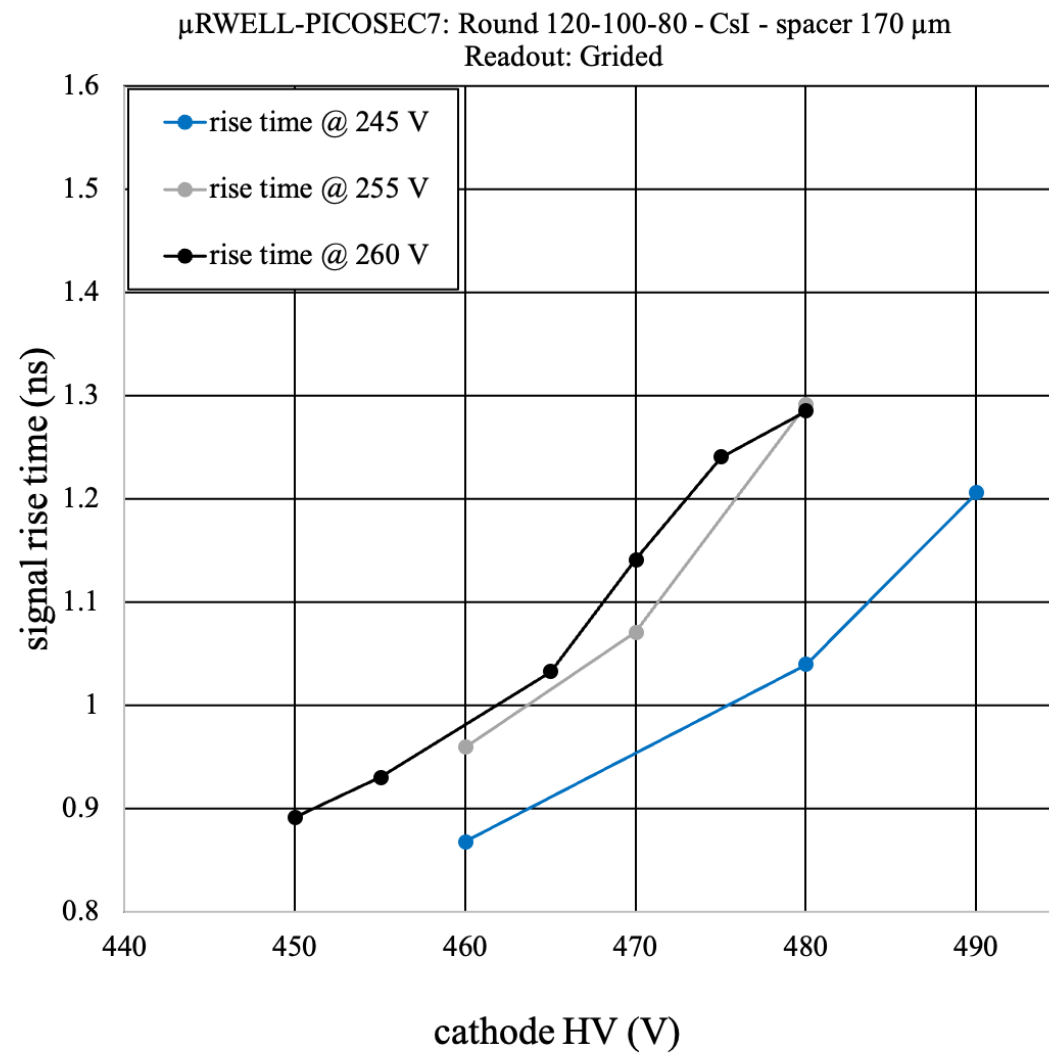
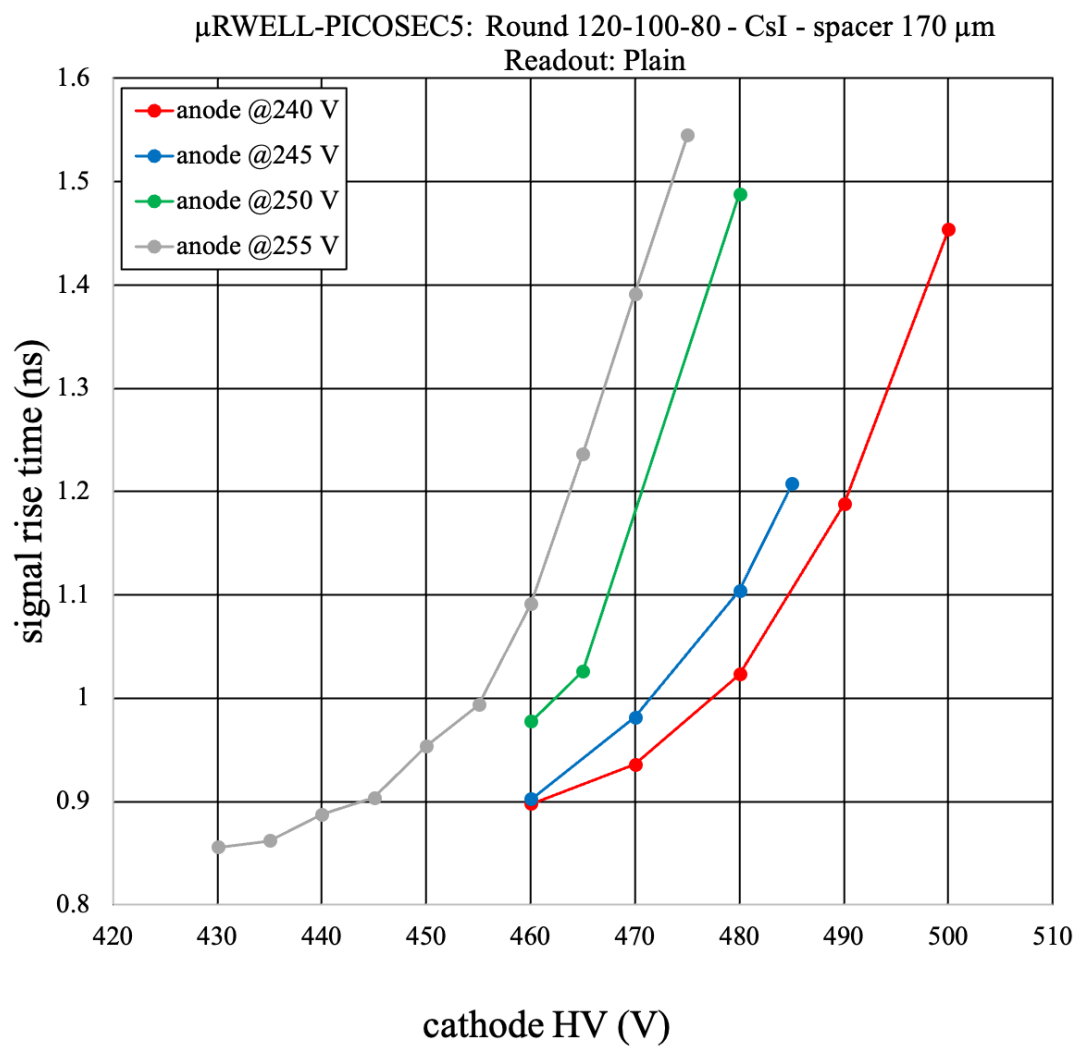
μ RWELL-PICOSEC5: Round 120-100-80 - CsI - spacer 170 μ m
Readout: Plain



μ RWELL-PICOSEC7: Round 120-100-80 - CsI - spacer 170 μ m
Readout: Grided

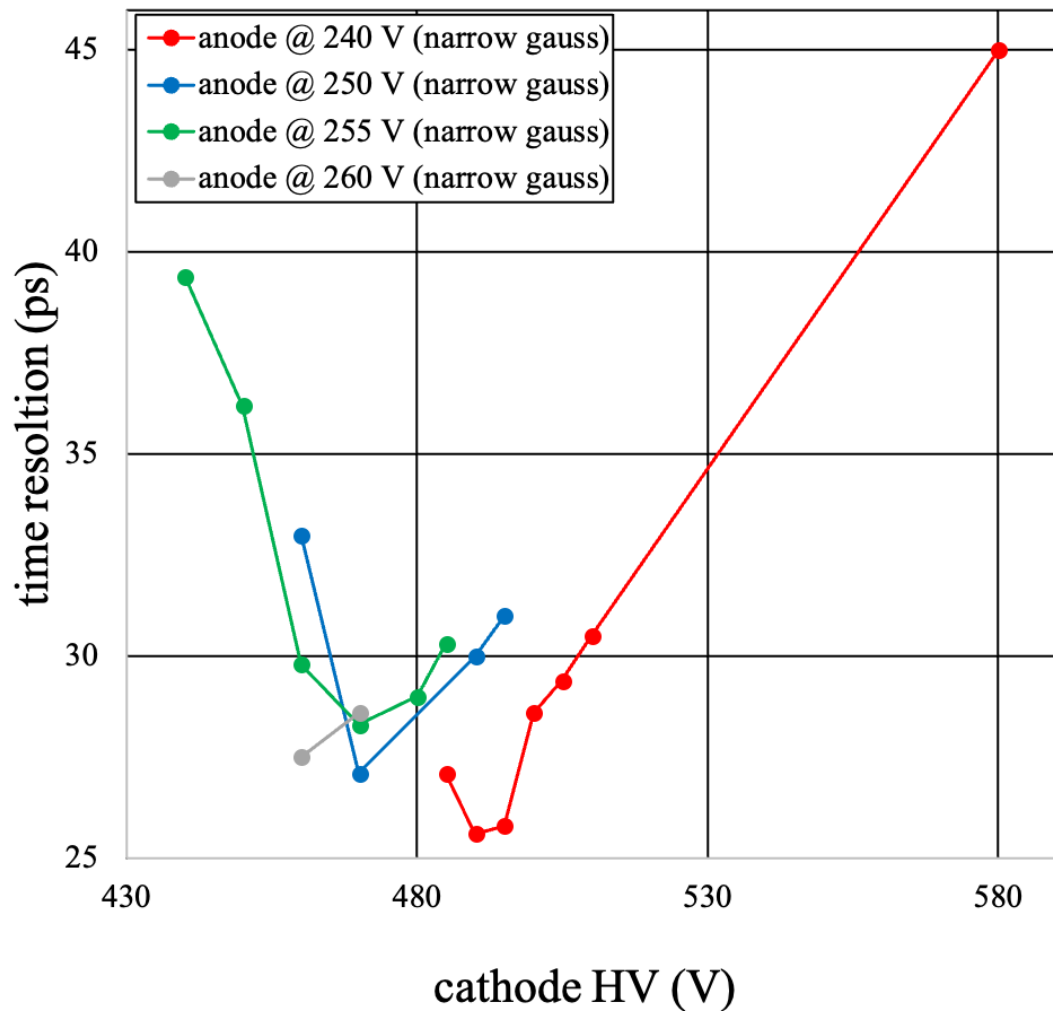


Readout: Plain vs Grided

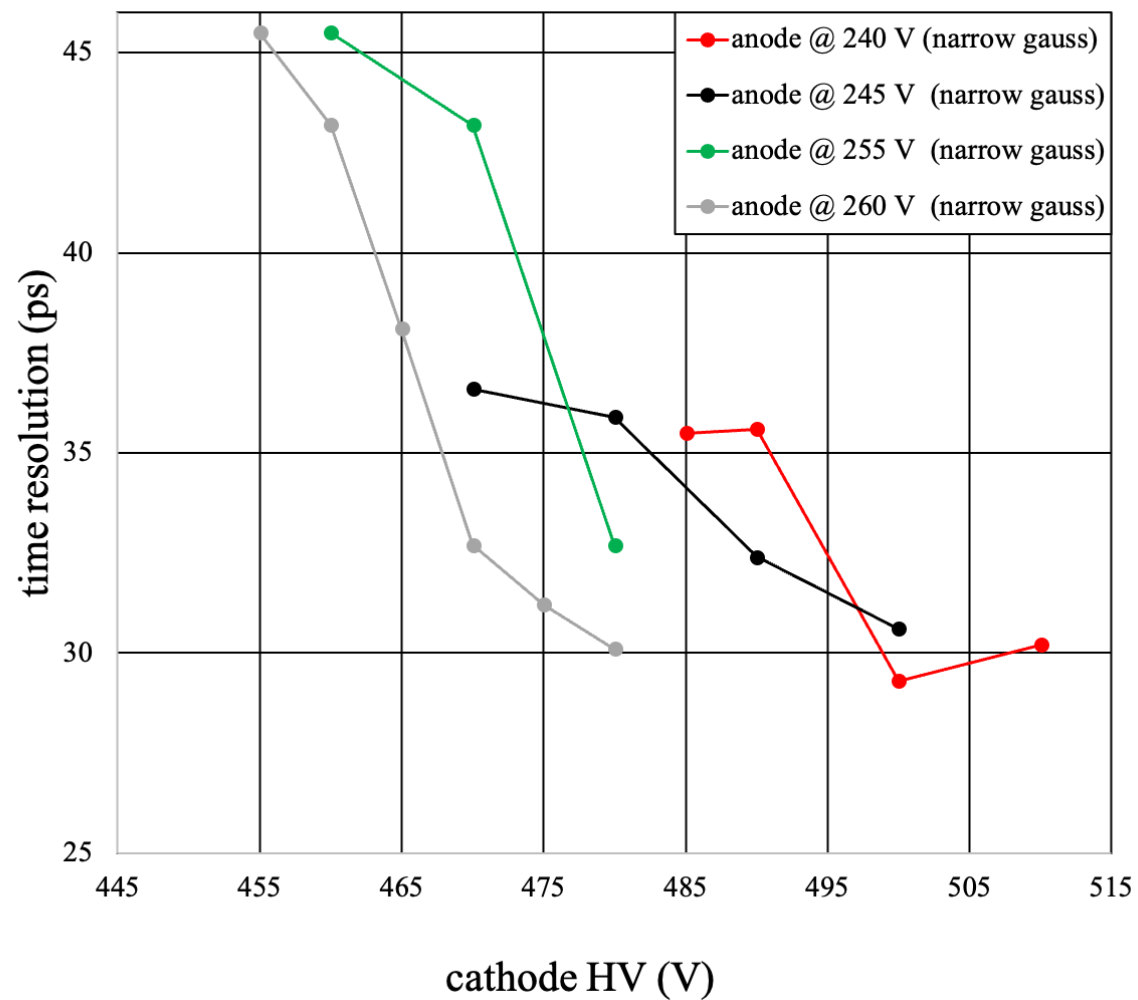


Readout: Plain vs Grided

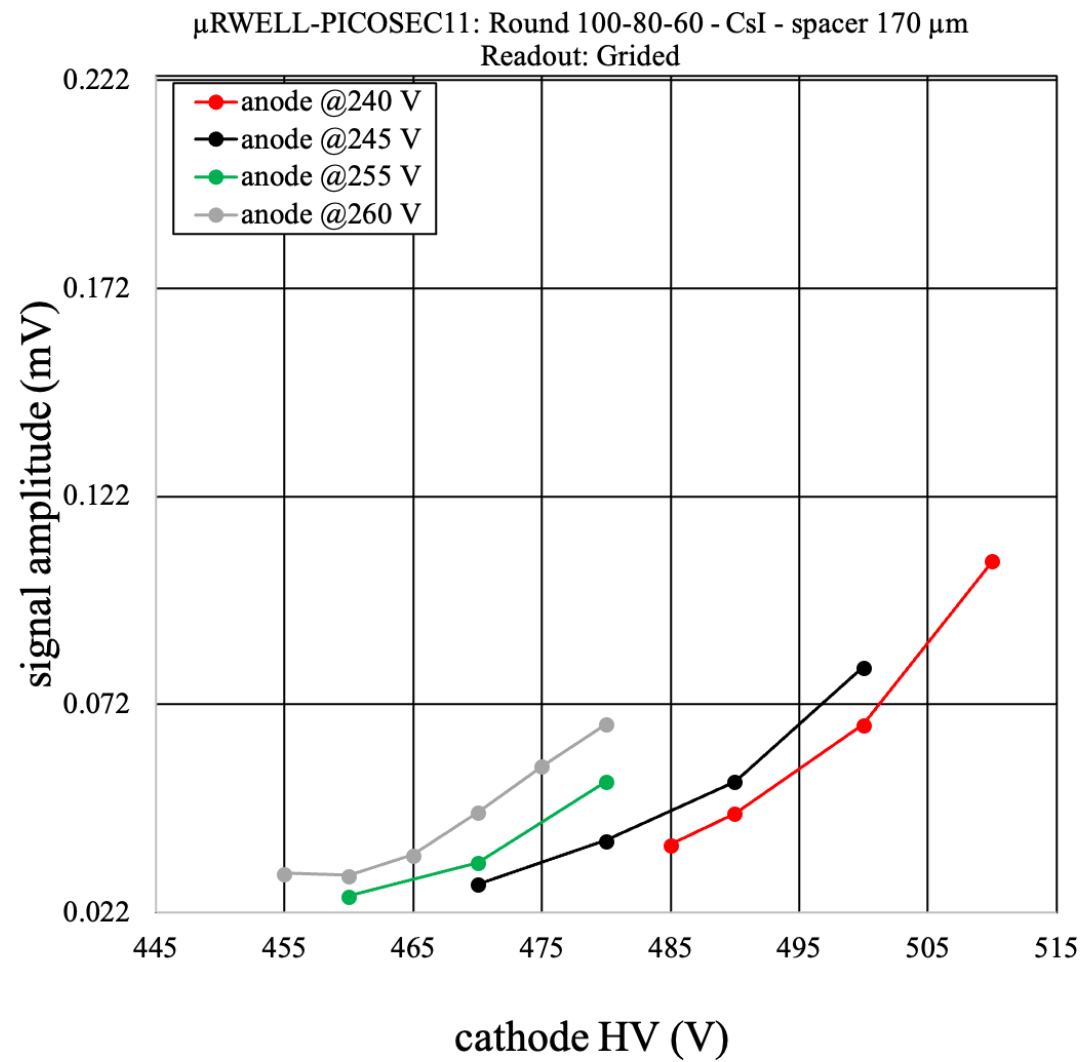
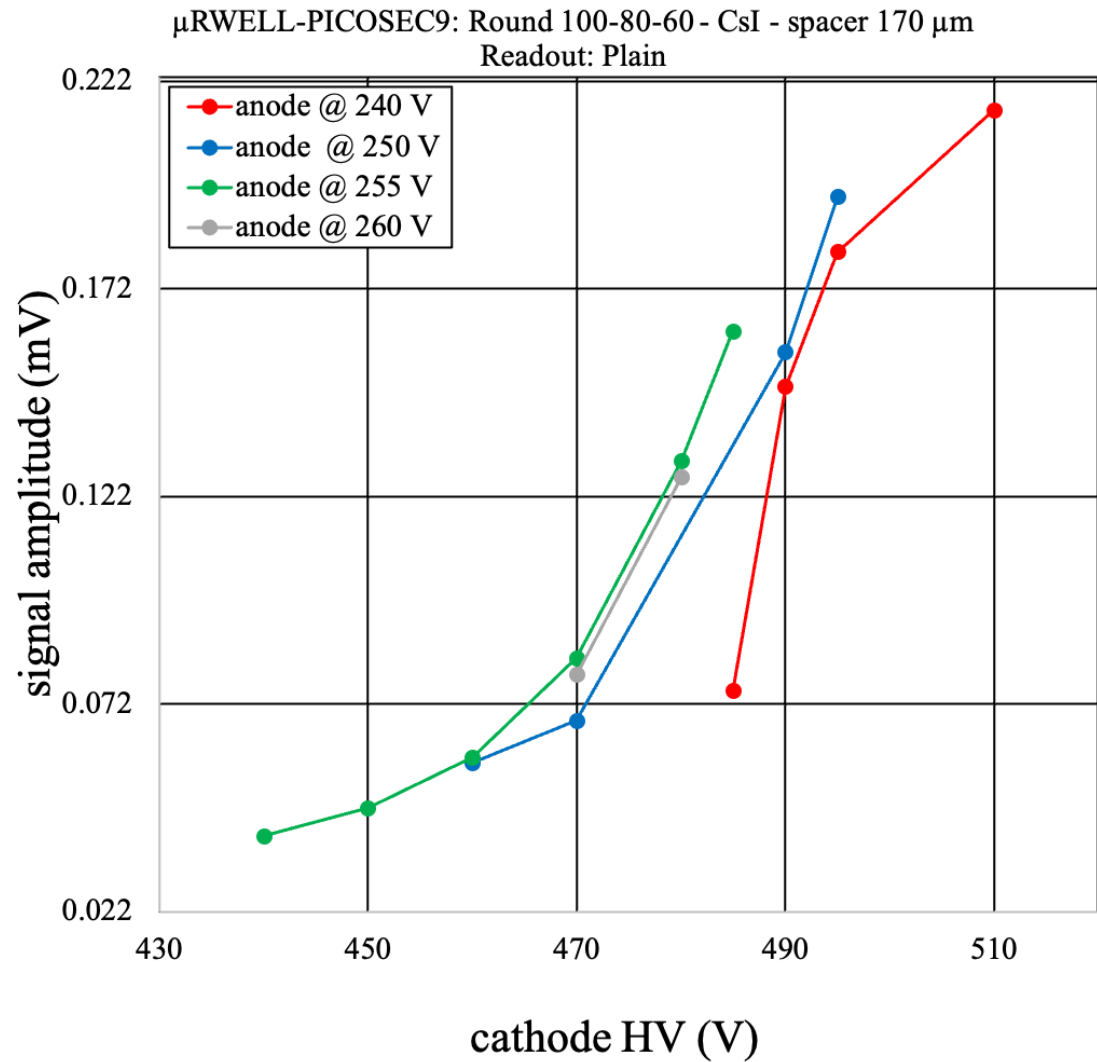
μ RWELL-PICOSEC9: Round 100-80-60 - CsI - spacer 170 μ m
Readout: Plain



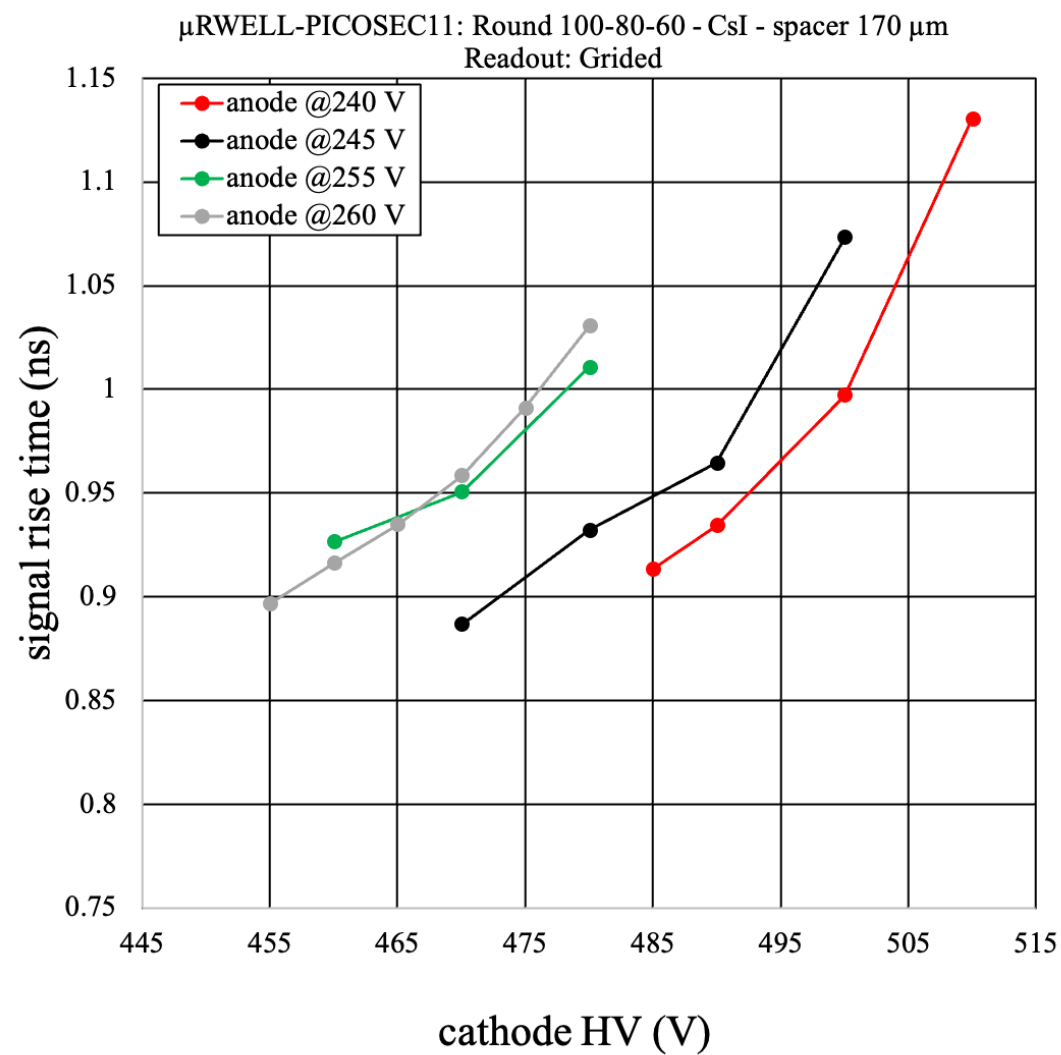
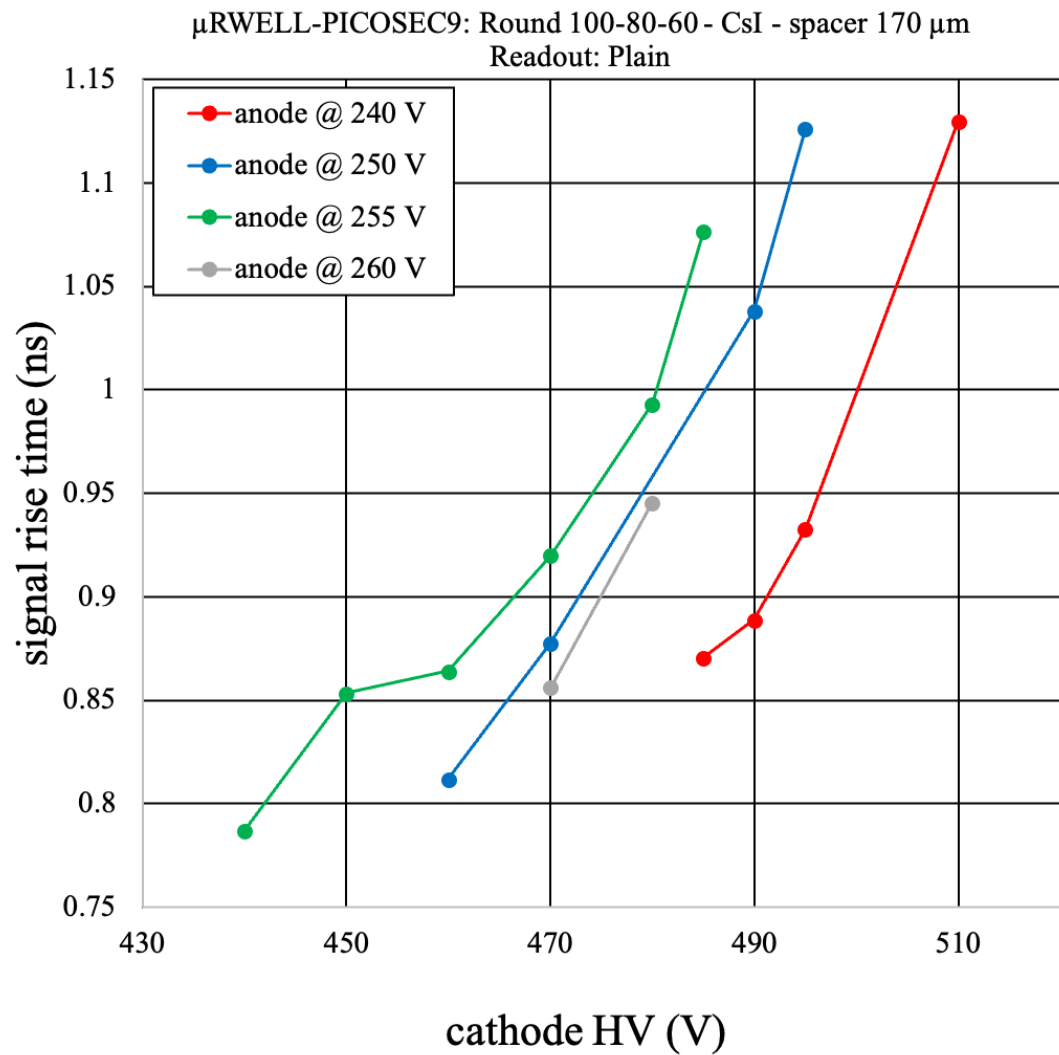
μ RWELL-PICOSEC11: Round 100-80-60 - CsI - spacer 170 μ m
Readout: Grided



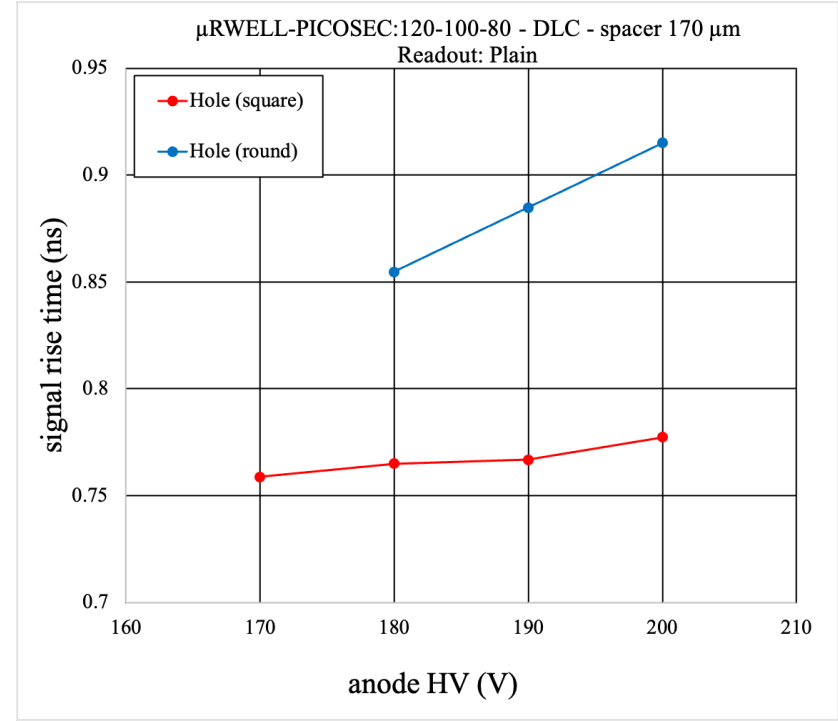
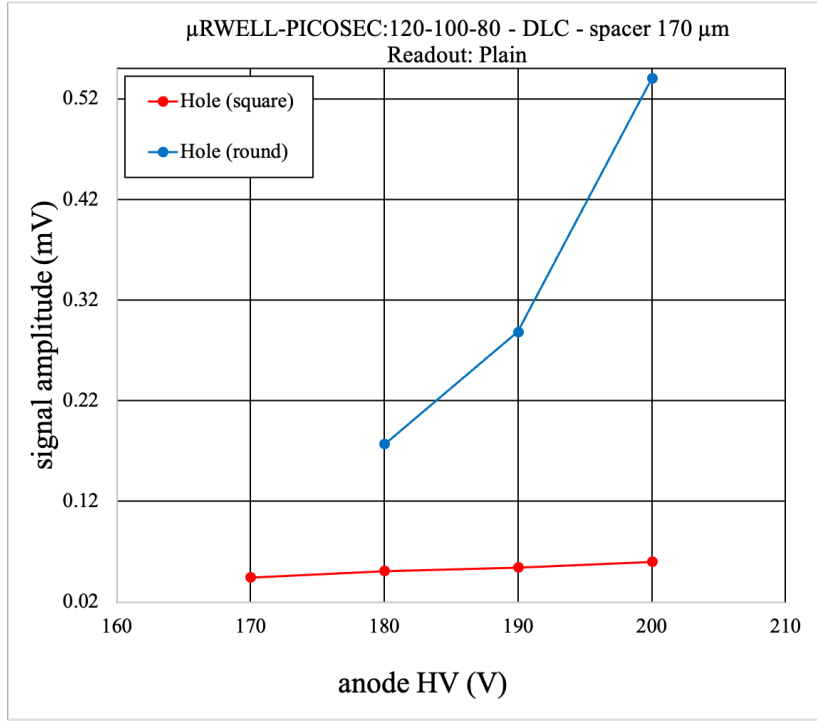
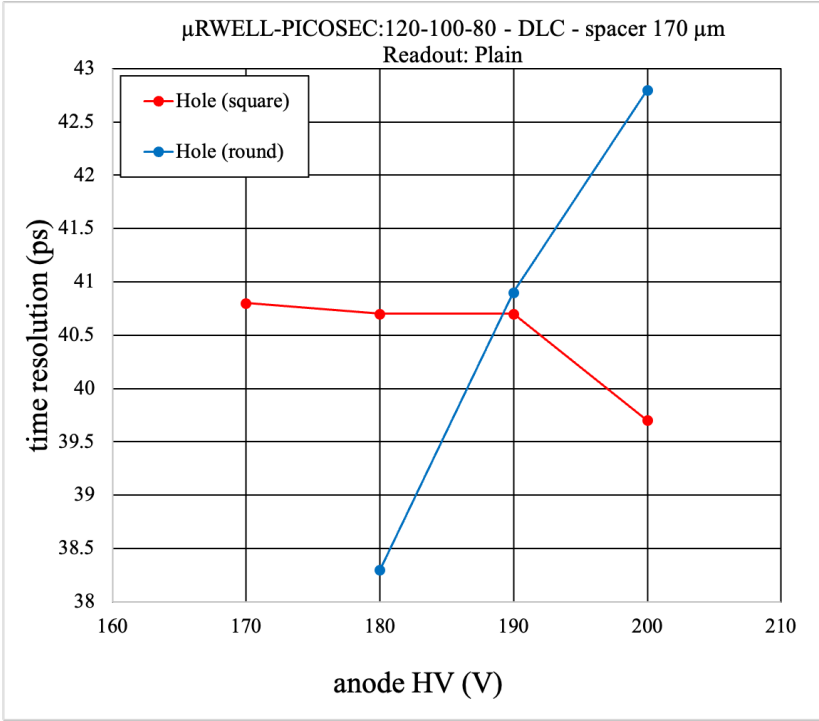
Readout: Plain vs Grided



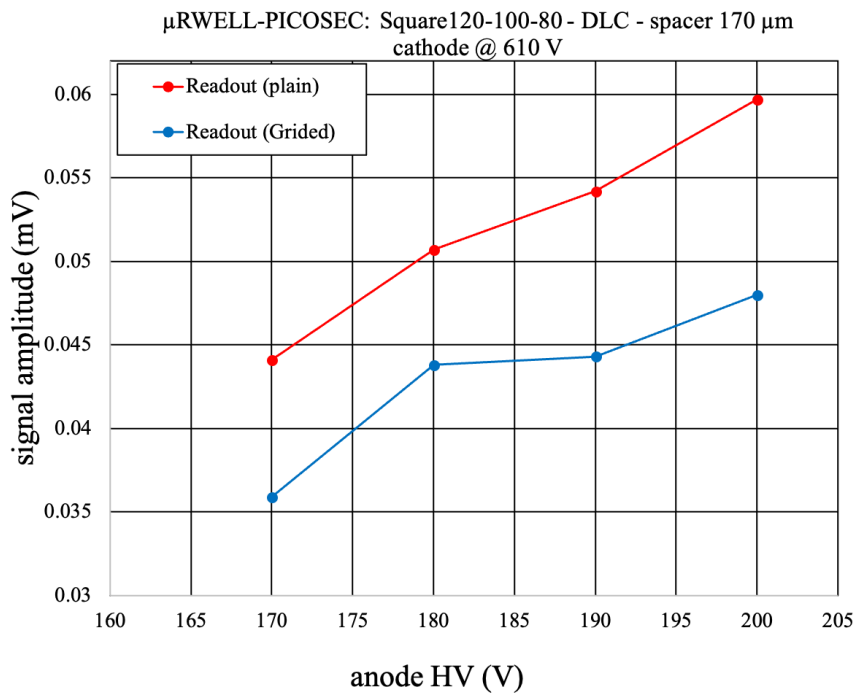
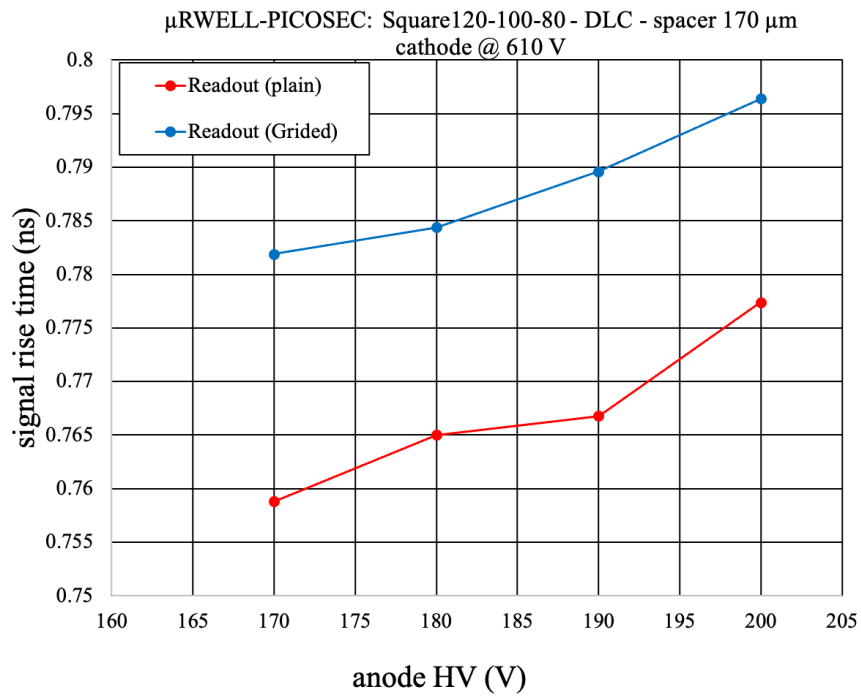
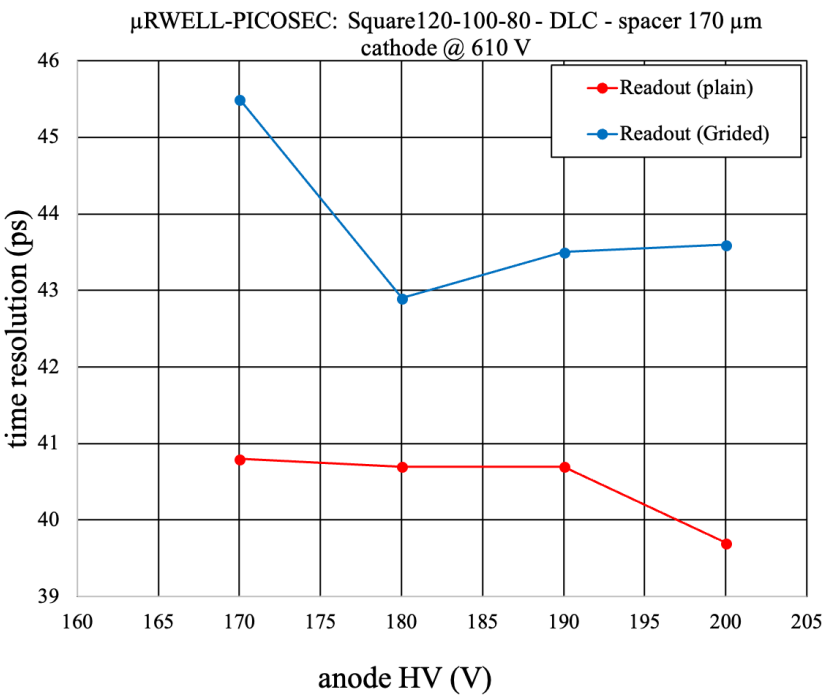
Readout: Plain vs Grided



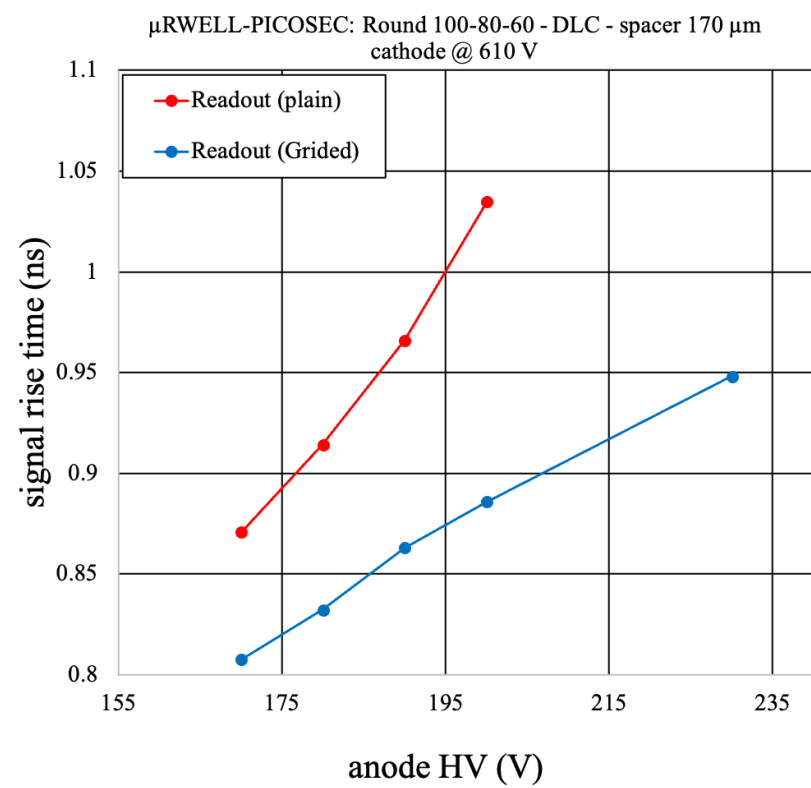
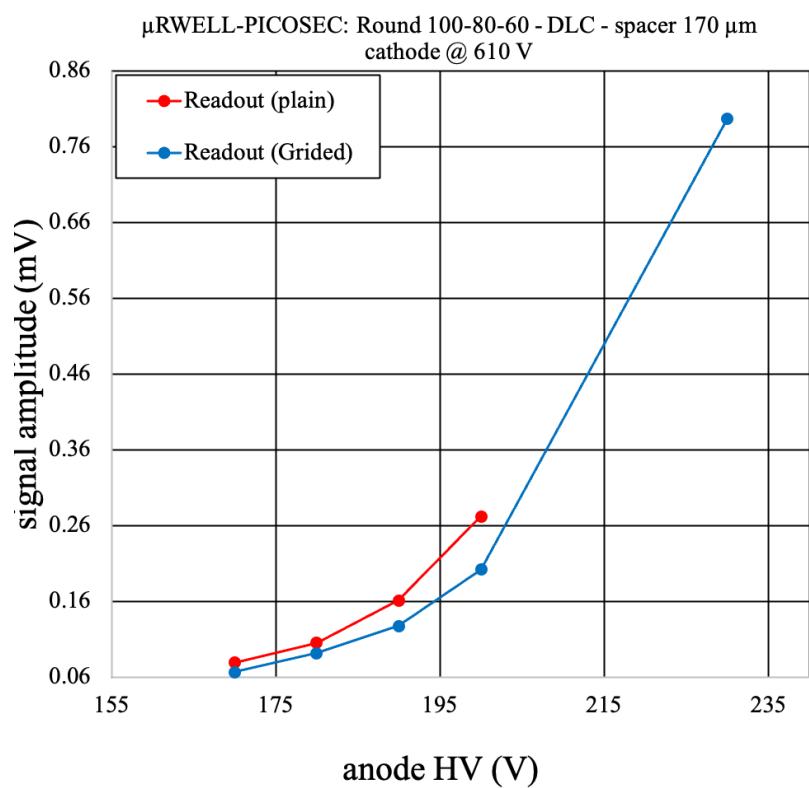
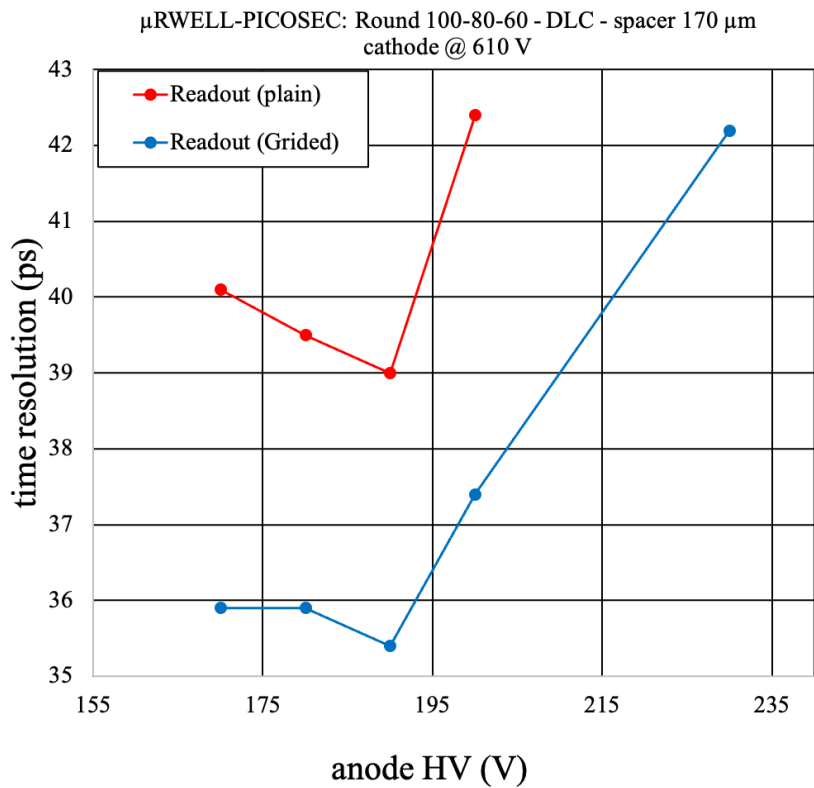
Readout: Plain vs Grided



Hole shape: Round vs Square

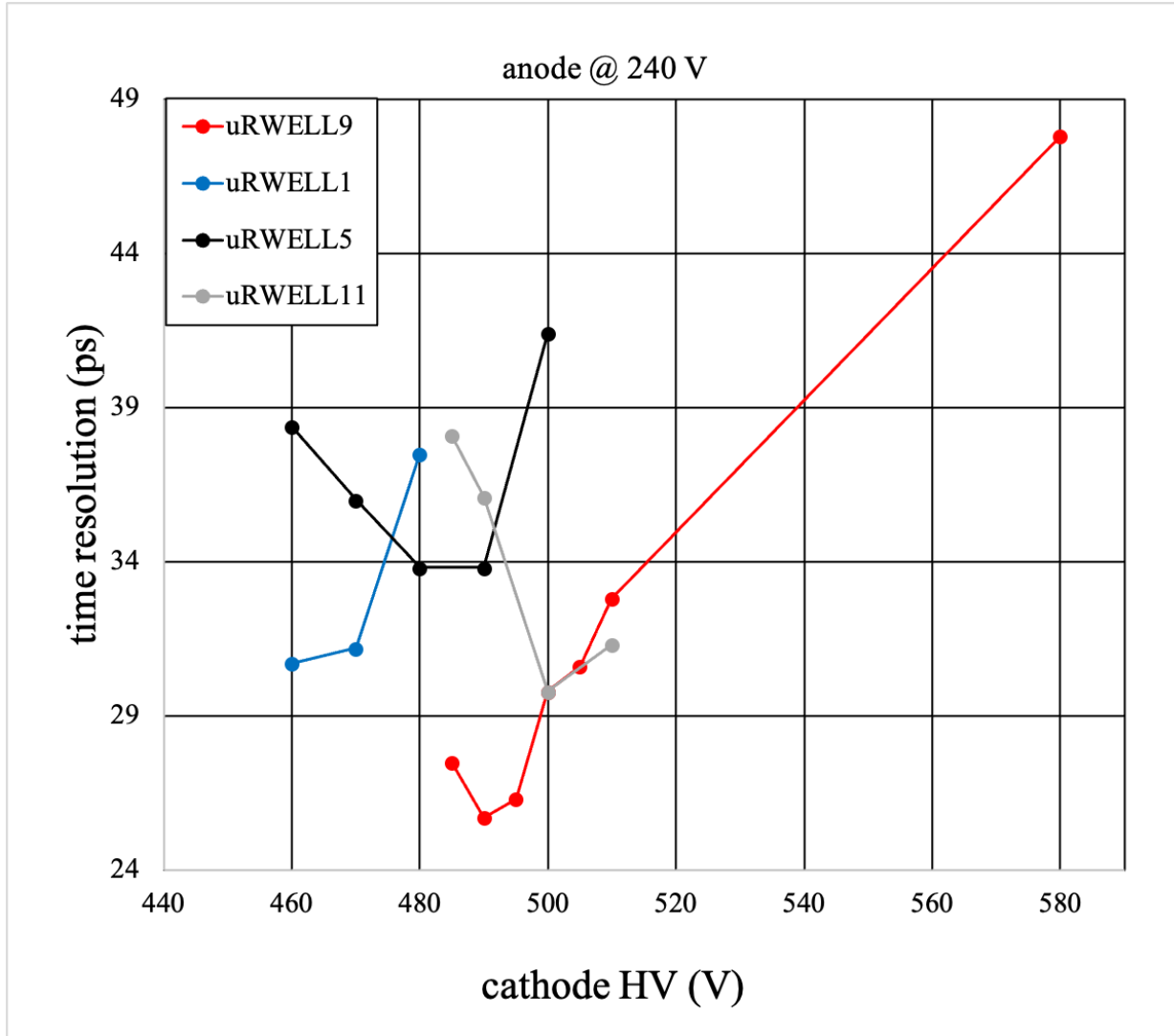


Readout: Plain vs Gridded



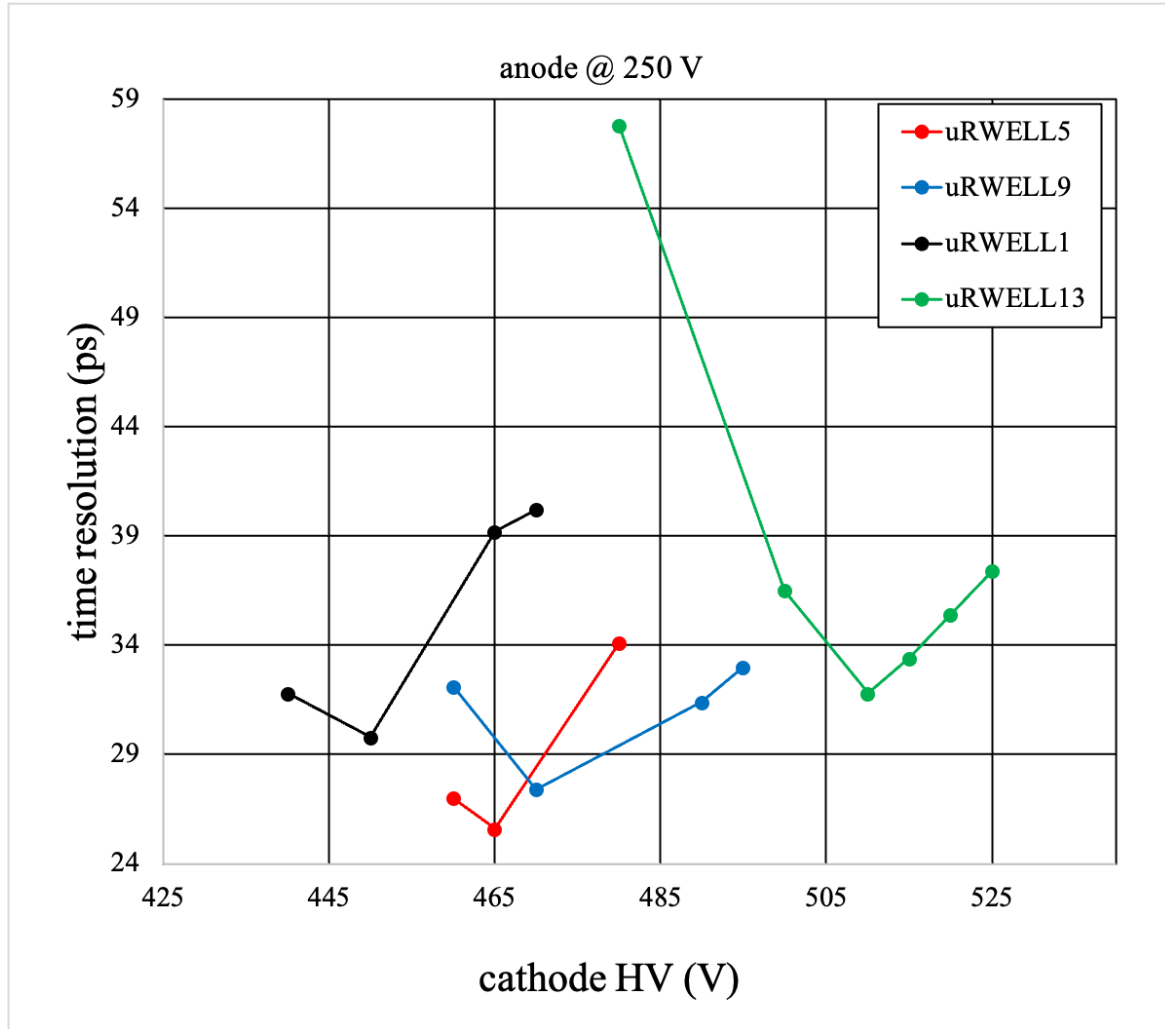
Readout: Plain vs Gridded

Time resolution performance for various single channel prototypes with a fixed anode voltage



	uRWELL9	uRWELL1	uRWELL5	uRWELL11
Pitch (μm)	100	120	120	100
Hole(o) (μm)	80	100	100	80
Hole(i) (μm)	60	80	80	60
Hole shape	Round	Square	Round	Round
Readout	Plain	Plain	Plain	Gridded
Spacer (μm)	170	170	170	170
Photocathode	CsI	CsI	CsI	CsI

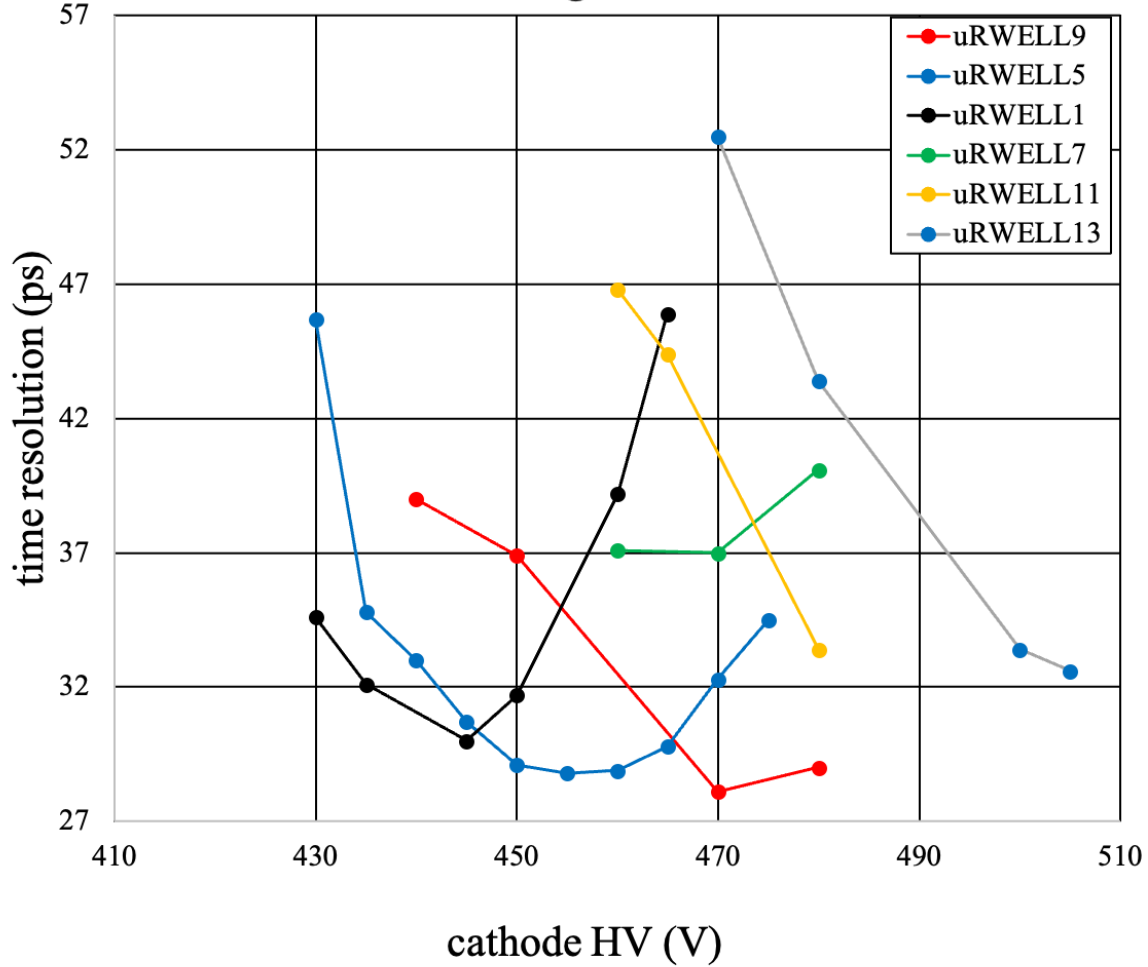
Time resolution performance for various single channel prototypes with a fixed anode voltage



	uRWELL5	uRWELL9	uRWELL1	uRWELL13
Pitch (μm)	120	100	120	80
Hole(o) (μm)	100	80	100	60
Hole(i) (μm)	80	60	80	40
Hole shape	Round	Round	Square	Square
Readout	Plain	Plain	Plain	Plain
Spacer (μm)	170	170	170	170
Photocathode	CsI	CsI	CsI	CsI

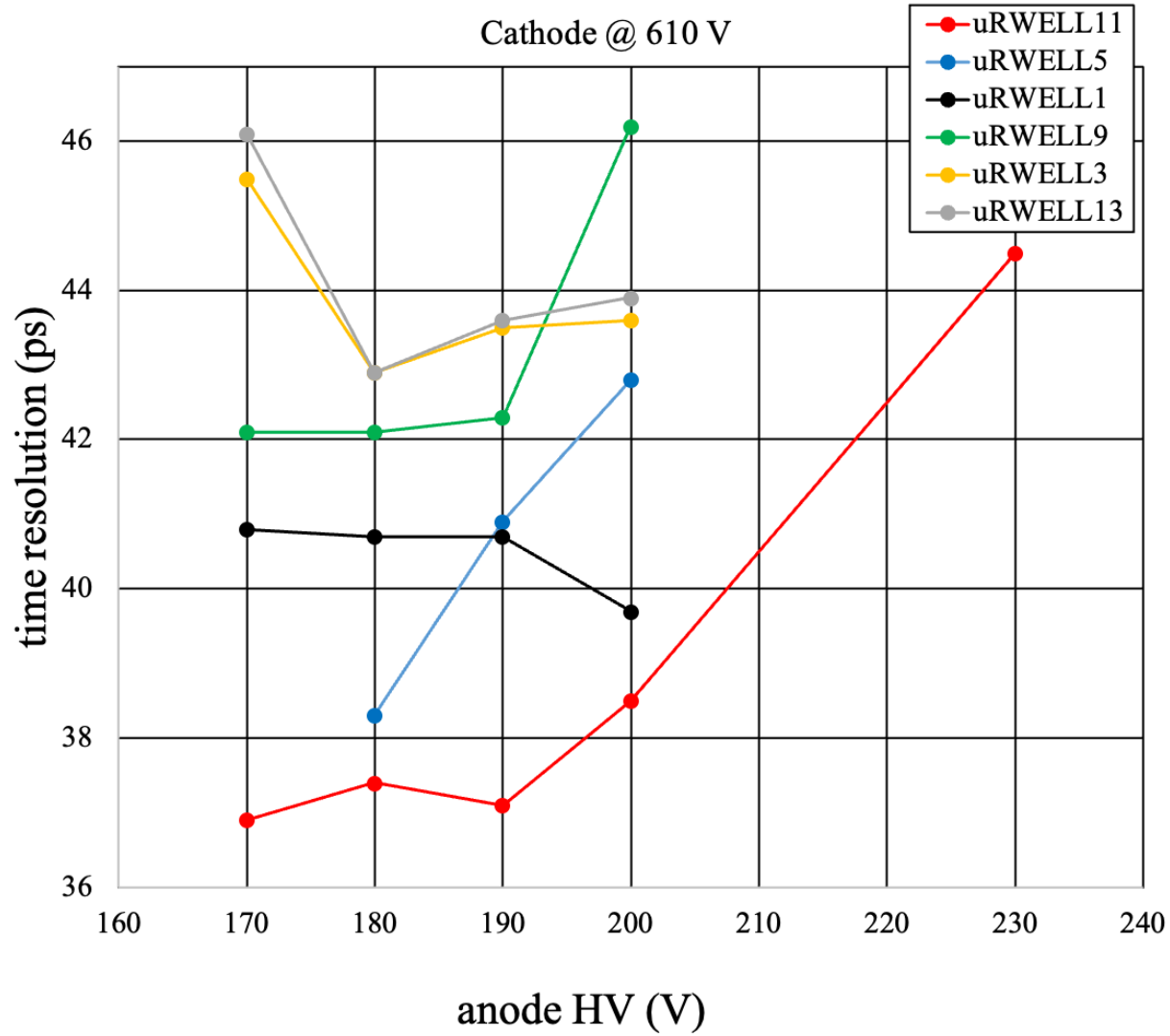
Time resolution performance for various single channel prototypes with a fixed anode voltage

anode @ 255 V



	uRWELL9	uRWELL5	uRWELL1	uRWELL7	uRWELL11	uRWELL13
Pitch (μm)	100	120	120	120	100	80
Hole(o) (μm)	80	100	100	100	80	60
Hole(i) (μm)	60	80	80	80	60	40
Hole shape	Round	Round	Square	Round	Round	Square
Readout	Plain	Plain	Plain	Grided	Grided	Plain
Spacer (μm)	170	170	170	170	170	170
Photocathode	CsI	CsI	CsI	CsI	CsI	CsI

Cathode @ 610 V



	uRWELL11	uRWELL5	uRWELL1	uRWELL9	uRWELL3	uRWELL13
Pitch (μm)	100	120	120	100	120	80
Hole(o) (μm)	80	100	100	80	100	60
Hole(i) (μm)	60	80	80	60	80	40
Hole shape	Round	Round	Square	Round	Square	Square
Readout	Grided	Plain	Plain	Plain	Grided	Plain
Spacer (μm)	170	170	170	170	170	170
Photocathode	DLC	DLC	DLC	DLC	DLC	DLC

backup

In June test beam 2024, following prototypes have been tested:

Single channel uRWELL prototypes with CsI photocathode

- uRWELL13: Square P:80, H(o):60 H(i):40, Spacer 170 um, Readout: Plain
- uRWELL9: Round P:100, H(o):80 H(i):60, Spacer 170 um, Readout: Plain
- uRWELL5: Round P:120, H(o):100 H(i):80, Spacer: 170 um, Readout: Plain
- uRWELL7: Round P:120, H(o):100 H(i):80, Spacer: 170 um, Readout: Grided
- uRWELL11: Round P:100, H(o):80 H(i):60, Spacer 170 um, Readout: Grided
- uRWELL1: Square P:120, H(o):100 H(i):80, Spacer 170 um, Readout: Plain

Single channel uRWELL prototypes with DLC photocathode

- uRWELL9: Round P:100, H(o):80 H(i):60, Spacer 170 um, Readout: Plain
- uRWELL1: Square P:120, H(o):100 H(i):80, Spacer 170 um, Readout: Plain
- uRWELL5: Round P:120, H(o):100 H(i):80, Spacer: 170 um, Readout: Plain
- uRWELL13: Square P:80, H(o):60 H(i):40, Spacer 170 um, Readout: Plain
- uRWELL11: Round P:100, H(o):80 H(i):60, Spacer 170 um, Readout: Grided
- uRWELL3: Square P:120, H(o):100 H(i):80, Spacer 170 um, Readout: Grided