

Design-in-Reliability model status

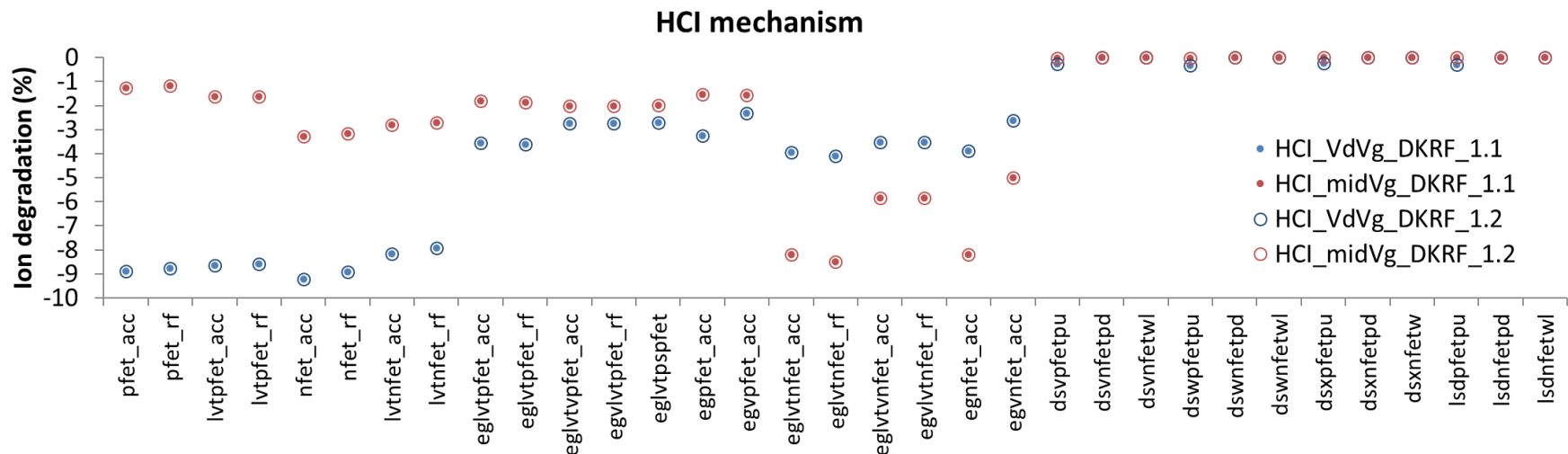
C028FDSOI

DK1.2_RF_mmW

09/27/2018

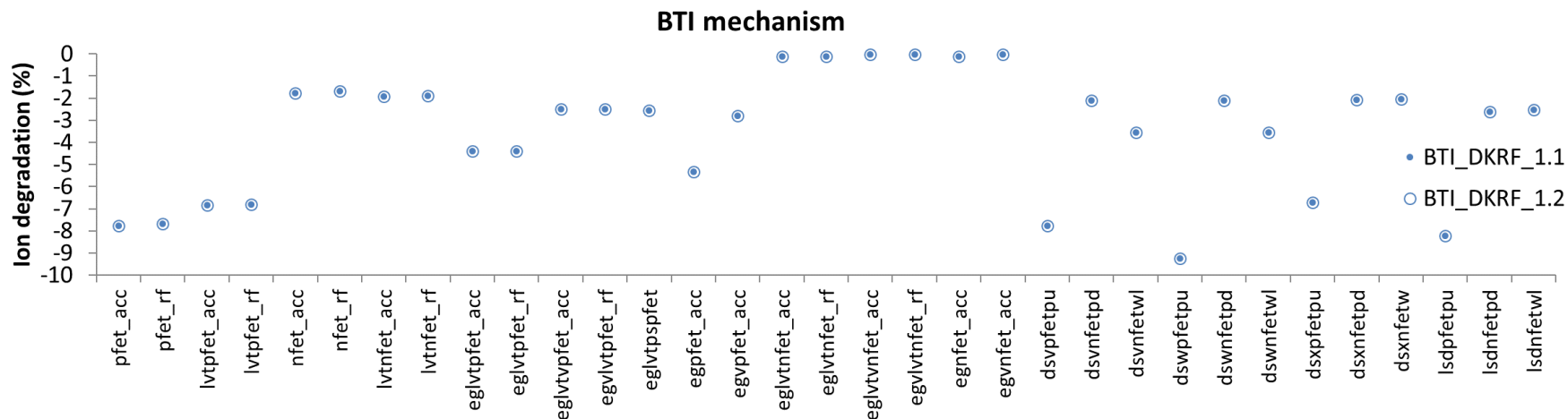
• HCI degradation target

- End Of Life degradation, 125°C 0.04yrs and 25°C 0.2yrs for respectively SG and EG devices
- VdVg and midVg conditions means respectively $V_d=V_g$ and $V_g=V_d/2$ stress conditions
- Nominal devices



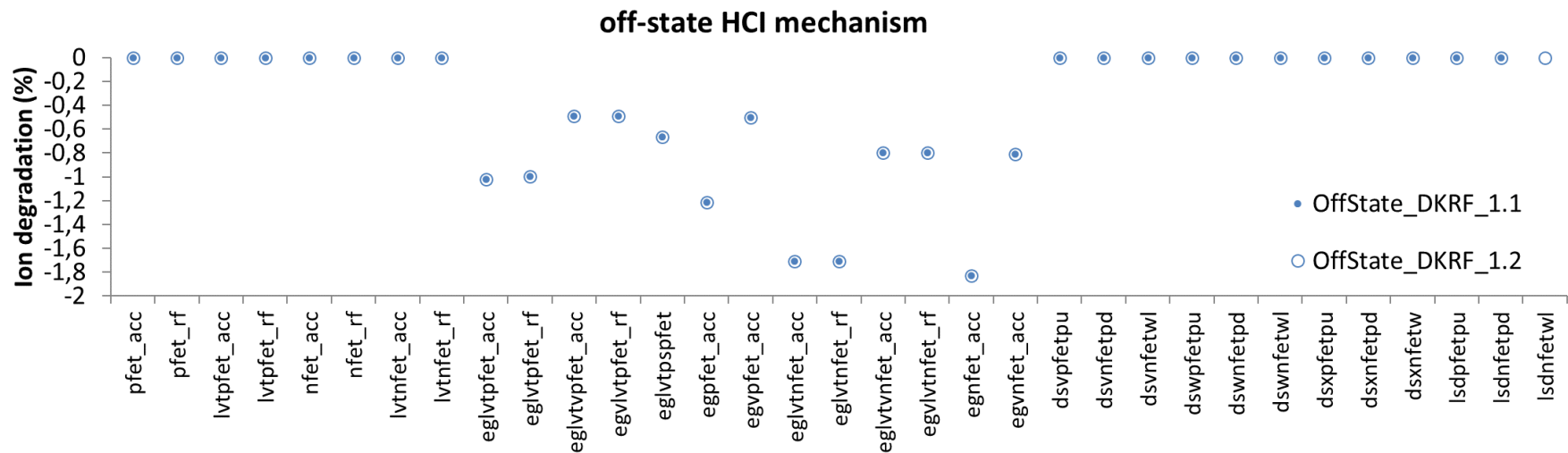
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- BTI degradation target
 - End Of Life degradation, 125°C 10yrs 50% activity
 - Nominal devices



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- Off state HCI degradation target
 - End Of Life degradation, 25°C 5yrs
 - Nominal devices



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Supported Models/devices

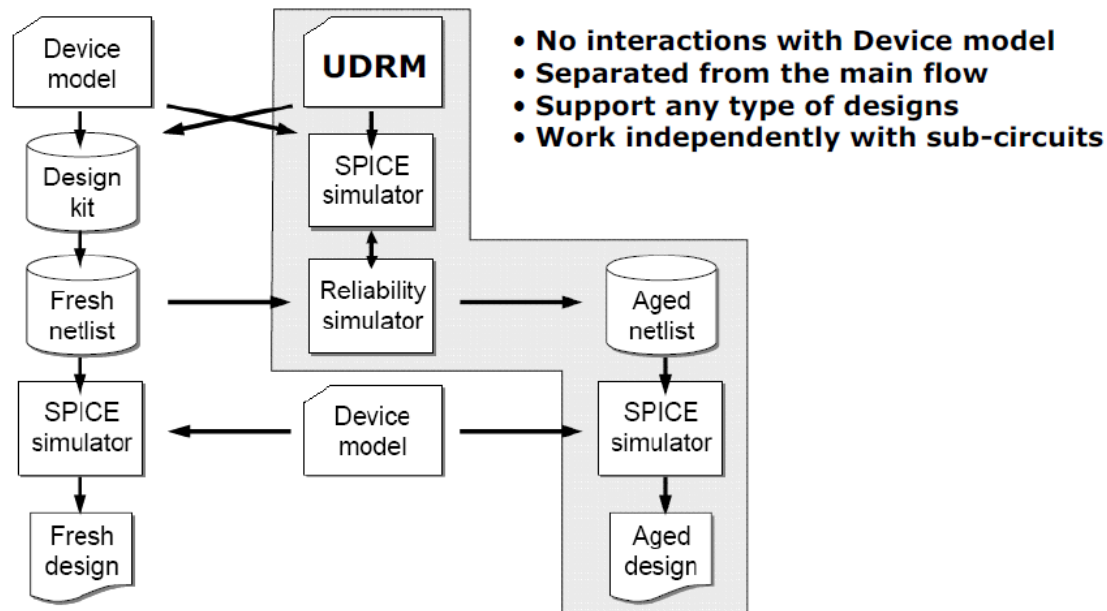
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device \ mode	Off-state drift	HCI drift	BTI drift	TDDB	Clamp value (Idlin drift)
pfet	N	Y	Y	Y	60%
lvtpfet	N	Y	Y	Y	60%
dsvpfetpu	N	N	Y	Y	-
dswpfetpu	N	N	Y	Y	-
lshpfetpu	N	N	Y	Y	-
lsdpfetpu	N	N	Y	Y	-
lsppfetpu	N	N	Y	Y	-
nfet	N	Y	Y	Y	60%
lvtnfet	N	Y	Y	Y	60%
egpfet	Y	Y	Y	Y	60%
eglvtpfet	Y	Y	Y	Y	60%
egnfet	Y	Y	Y	Y	75%
eglvtnfet	Y	Y	Y	Y	75%

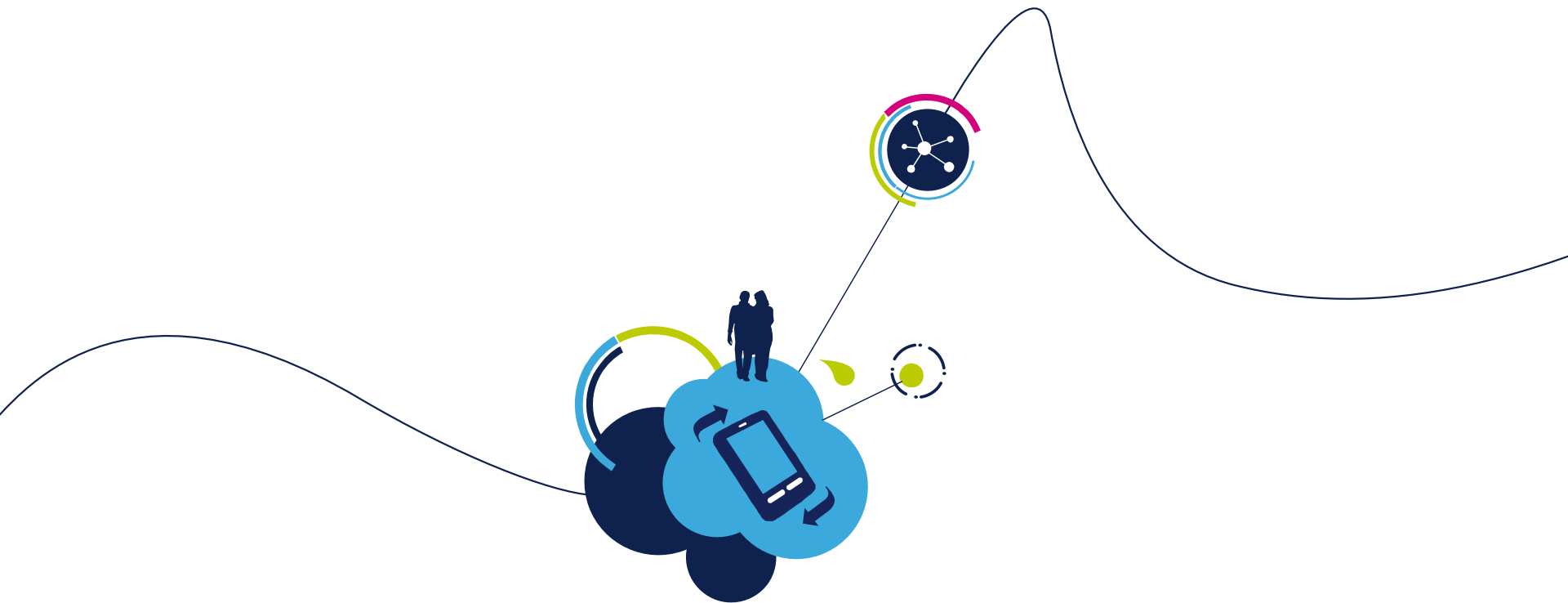
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- **Ageing simulation**

- Simulator is eldo, customsim, hspice, spectre
- Supported platforms: RH60
- Supported reliability models: Hot Carrier Injection, Bias Temperature Instability and Time Dielectric Dependent Breakdown



- Ageing simulation documentation
 - Options and tutorial: *ageing_simulation.pdf*
 - Sizing under reliability constraint: *ageing_WiCkeD.pdf*
 - Model status: *ageing_modelstatus.pdf*
- General note
 - More details about eldo options are available
/sw/mentor/ams/XXX/docs/pdfdocs/eldo_udrm.pdf
 - Eldo premier support .age options
 - eWIP Reliability Services link: <http://ewiprd.cr2.st.com/pls/ewip/ewip.home>
 - Support DiR models: Helpdesk Tickets



End of report