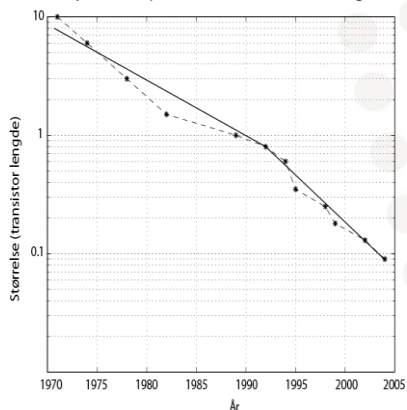


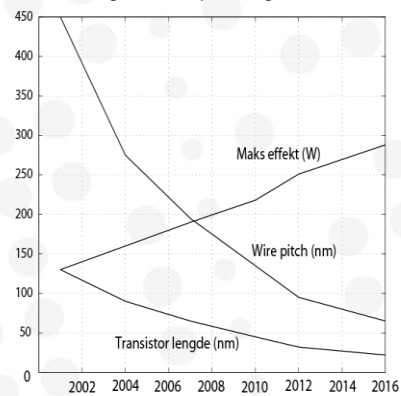


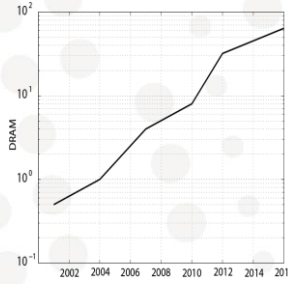
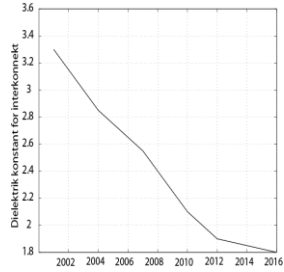
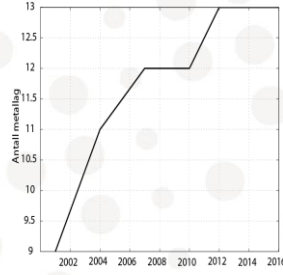
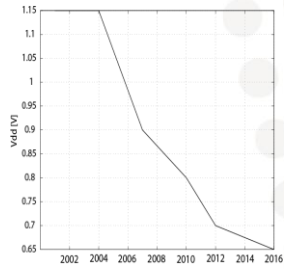
Hvordan er fremtiden for CMOS?

Introduksjonstidspunkt av ulike teknologier:

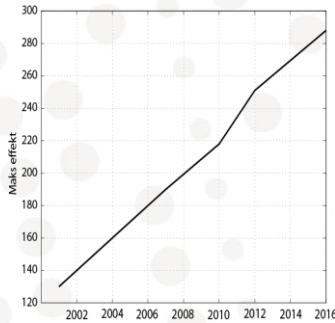
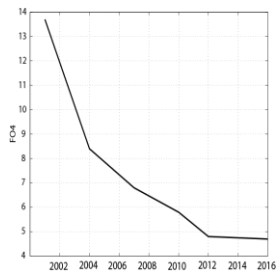
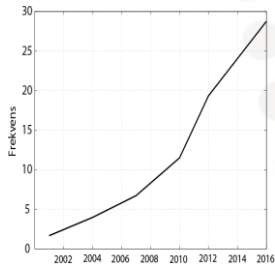


Transistor lengde, wire pitch og maks. effekt:



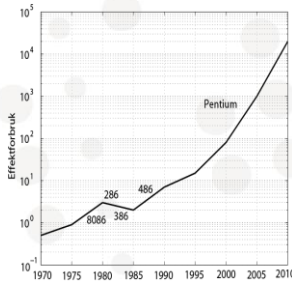
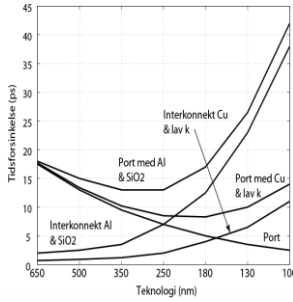
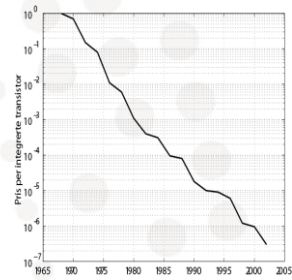
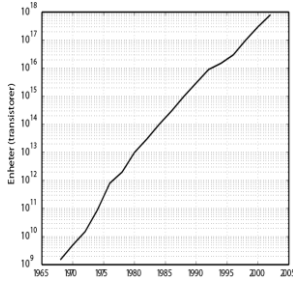


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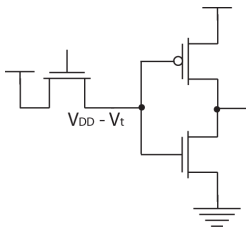
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Designutfordringer

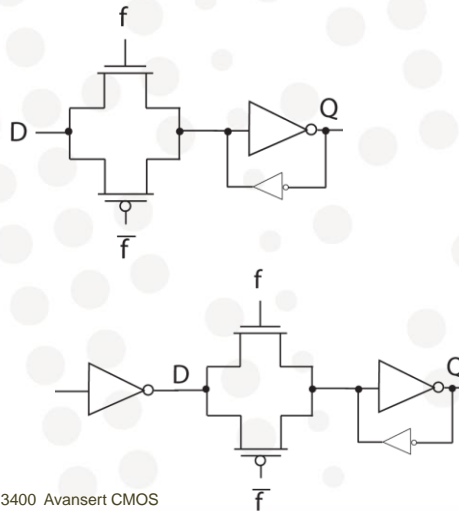


Kretsproblemer

Terskefall:



Nivåfeil:



INF3400 Avansert CMOS



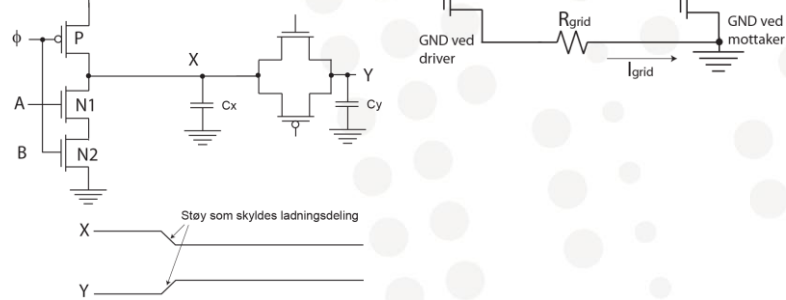
Lekkasje:

$$t = \frac{C_{node}}{I_{lekkasje}} \cdot \Delta V$$

$$\Delta V = \frac{I_{lekkasje}}{C_{node}} \cdot t$$

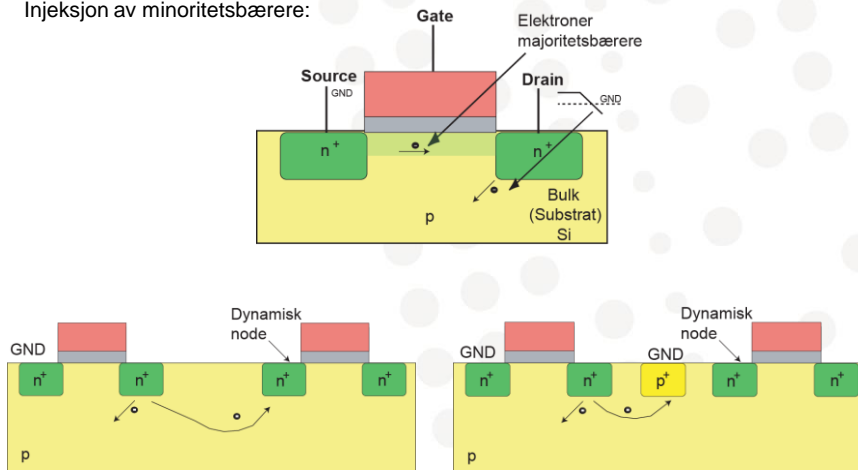
Støy på forsyningsspenningen:

Støy pga ladningsdeling:



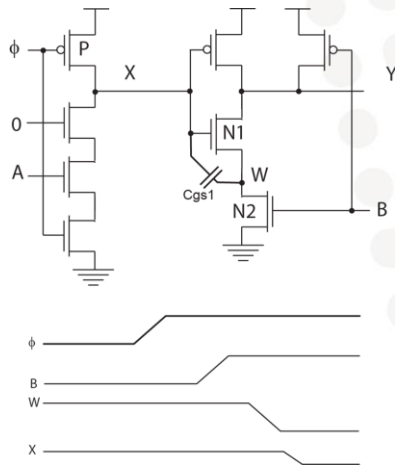
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Injeksjon av minoritetsbærere:

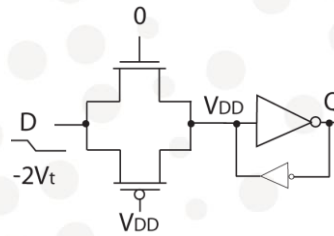


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Back-gate:



Følsomhet for støy i diffusjon:



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Domino logikk:

1. Lekkasje av ladning.
2. Ladningsdeling.
3. Kapasitive koblinger.
4. Back-gate.
5. Injeksjon av minoritetsbærere.
6. Støy på spenningsforsyninger.

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