Advantages of ALD:
- Precise control of thickness
- Variation of uniformity < 1% across wafer
- Highly conformal deposition
- Pinhole free layers
- Low processing temperatures
- Compatible with CMOS processing

Highly conformal ALD deposition is shown above on high-aspect ratio structures. [1]

Conclusions
- Plasma-enhanced ALD HfO₂ exhibits the greatest radiation-hardness indicated by the negligible shift in C-V curve.
- Plasma-enhanced ALD Al₂O₃ exhibited least mobile traps
- ΔV.grad in ALD Al₂O₃ is smallest compared to ALD HfO₂ & SiO₂
- Plasma-enhanced ALD SiO₂ has a higher ΔV.grad compared to traditionally grown SiO₂ by thermal oxidation.

Further Information
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