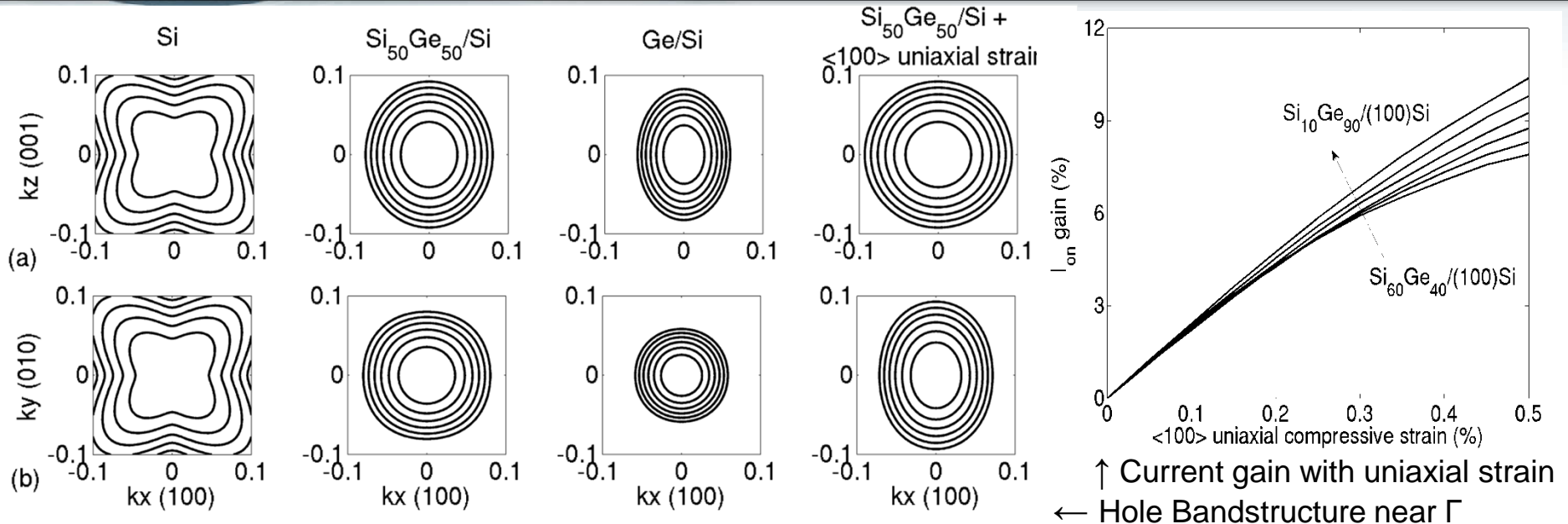


Effect of biaxial+uniaxial compressive strain on SiGe /Si hole bandstructure and pMOSFET



Objective:

- Understand the role of compressive strain in SiGe/Si based PMOS devices.
- Study the performance gain achievable with biaxial+uniaxial strain.

Approach:

- Utilized the VCA model* developed for SiGe bandstructure.

[*A. Paul S. Mehrotra *Elec. Dev. Lett.* April 2010]

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Result:

- Linear improvement with application of uniaxial strain with no V_t shift.
- Uniaxial strain can act as performance booster in SiGe/Si pMOSFETs.

Impact

- Results published in TECHCON (Austin 2010)