A Unified Compact Model for Generic Heterostructure HEMTs

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Conclusion

- A single-piece explicit 2DEG compact model from subthreshold to active region including two subbands has been developed for the first time
- The 2DEG model is demonstrated to be scalable for different physical parameter sets as well as bias and temperature
- The 2DEG model is also smooth and symmetrical
- The model has been adapted to the compact drain-current model
- This work is a first attempt to extending 2DEG-based HEMT models to unified regional modeling in bulk/SOI core models

