



## Continuous System For Fabricating Multilayer Heterostructures Via Hydride Vapor Phase Epitaxy

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### The Invention

A Hydride Vapor Phase Epitaxy (HVPE) system is provided which comprises a deposition assembly comprising a plurality of deposition chambers and a plurality of separation chambers mounted together, each separation chamber having two opposing ends, each end mounted to a deposition chamber of the plurality of deposition chambers and in fluid communication with the deposition chamber via a fluid pathway, wherein each deposition chamber of the plurality of deposition chambers defines a deposition zone having a height  $h_d$ , each separation chamber defines a separation zone having a height  $h_s$  and a length  $l_s$ , and each fluid pathway has a height  $h_{fp}$ , wherein  $h_{fp}$ ,  $h_s$  and  $l_s$  are selected to provide a predetermined interfacial transition region value between different material layers of a multilayer heterostructure; and a moveable belt configured to continuously convey a substrate mounted thereon through the plurality of deposition chambers and the plurality of separation chambers. The system further comprises a gas delivery assembly configured to deliver reactant gas mixtures to the deposition assembly for deposition on the substrate via HVPE.

### Additional Information

#### For More Information About the Inventors

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#### Tech Fields

- [Semiconductors & Integrated Circuits : Design & fabrication](#)

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