

Liquid distribution in structured packing on tilt condition

_____, _____, _____, _____*

(kslee@sogang.ac.kr*)

In oil and natural gas industries, by increasing the interests of submarine resources, ocean plants to develop gas and oil from sea are becoming attractive. FPSOs (floating production storage and offloading) which are one of those ocean plants are studied and some of them are already on operation or construction for its costal advantage over onshore plants

One major difference from the aspects of onshore plants is that those ocean plants are exposed to harsh ocean environment which causes considerable ship motions to them. Offshore condition like permanent tilt and periodic motion cause liquid maldistribution in absorption column which is essential for separation process such as acid gas sweetening. Liquid maldistribution has adversely effects to the mass transfer performance because of unstable operating condition in column

In this research, we studied about liquid distribution model on several ship motion for structured packing, especially corrugated sheet type packing. By analyzing structured packing geometry and defining the intersection nodes in column, 2D and 3D distribution models were developed with considering tilt motion.