1. Ukf derivation
2. Kappa tuning
3. CKF derivation
4. Show equivalence in 1D to GH and then extend to N-D
5. Generalize the 4th moment equations to solve from 1D to ND
6. Try to show that central weight can help- take thin function examples
7. Integrate ckf example and compare to analytical example
8. List of examples in Gaussian integrals
9. N\*N square of Gaussian function- it does work better
10. Taylor series expansion of function-moments
11. Integration of polynomials till 4th order
12. Mention that the number of points needed by GH product rule is (m+1)^n
13. Show graph of points comp to GH
14. Polar to cart example improve fig and include GH

* From the basics – requirement to evaluate the integral and hence quadrature
* How EKF solves the integral
* Expected value of function in terms of Taylor series and the moments involved. We thus need to satisfy more moments to have better approximation.
* Quadrature method comes to save us when it is Gaussian bcos quadrature points can capture the moments of the PDF.
* Derive the UKF and show tuning of kappa. Show it cannot satisfy all 4th order moments- cross moments and it becomes negative
* Derive CKF in ur method and show how bad the 4th moment is bad for 1d and 2d and show that UKF has better approximation to 4th moment for 1D and 2d and then it becomes bad.(Note on generating sets and axis)
* Now derive ur 4th moment accurate method and make it general without case wise-D shit and all. Make the Derivation comprehensive and complete
* Show equivalence to GH in 1D
* Give ref to juliers paper that has the 4th moment sol and derive the weights and show that it becomes negative for greater than some degree.
* Show the derivation of 6th moment and 8th moment till 6D may be
* Examples: polynomials, polar to Cartesian,spherical to cartesion 3D space, ckf examples (analytic results also), Gaussian integrals, exp[x],
* Drawbacks-non minimal, curse of dimensionality, numerical root finding accuracy degrades the answer, would become complex and difficult to get the higher order equations and even to solve them numerically.
* conclusion
* Future work