CPUnleashed!

Tapping Processor Speed

by D. James Benton

just the color figures for customers who got the B&W printed version

Figure 1. Intel™ 7th Gen Processors

Figure 2. Intel™ CPU Cooling Fan for i3 i5 i7

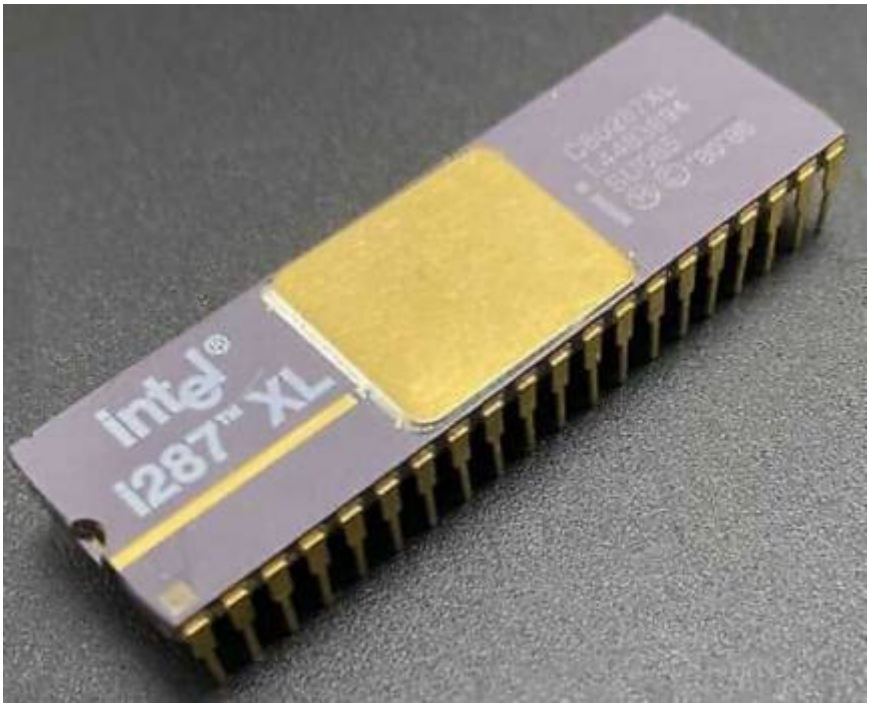


Figure 3. Intel™ i287 FPU

Figure 4. Intel™ i387/i487 FPUs

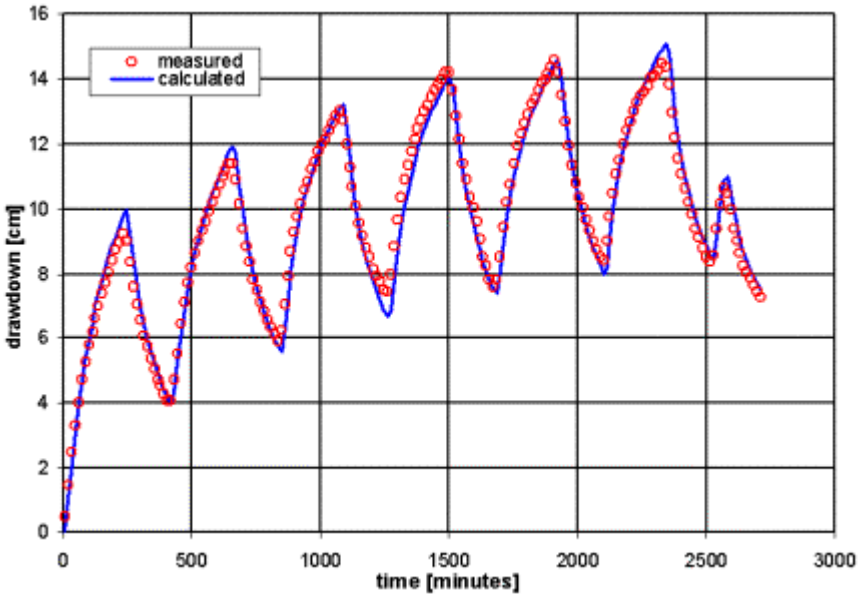


Figure 5. Response of Pumped Aquifer

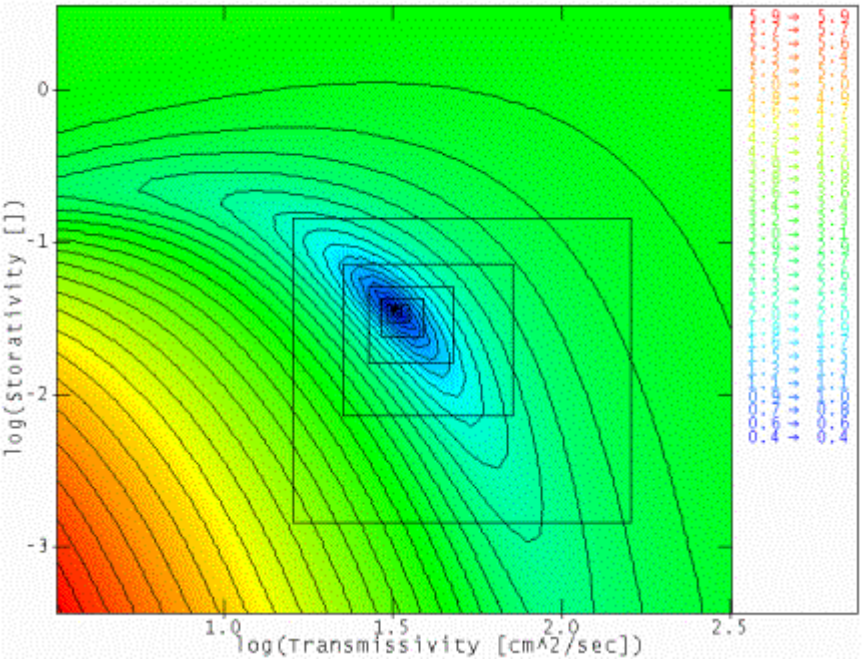


Figure 6. Solution Domain (Residuals)

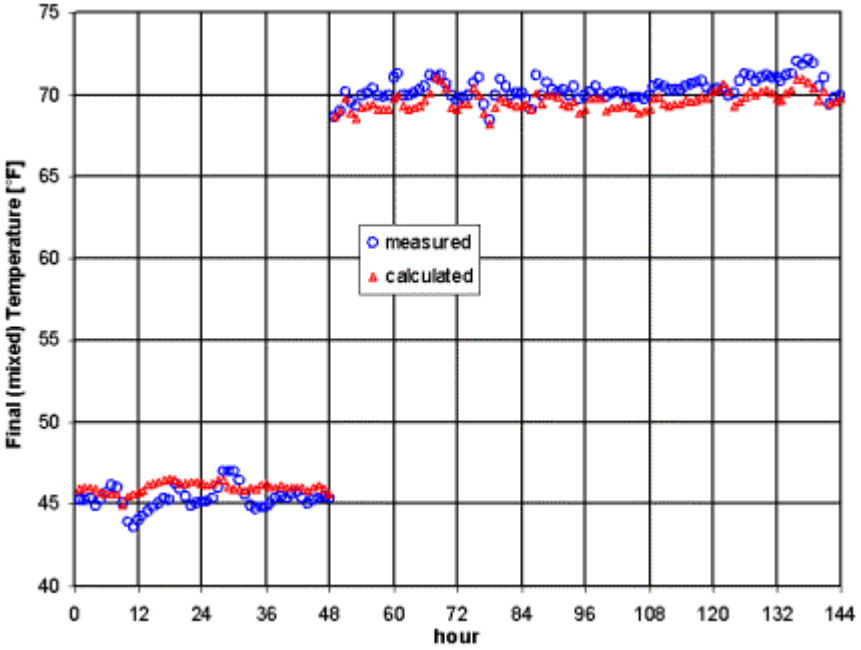


Figure 7. Buoyant Thermal Plume Model Results

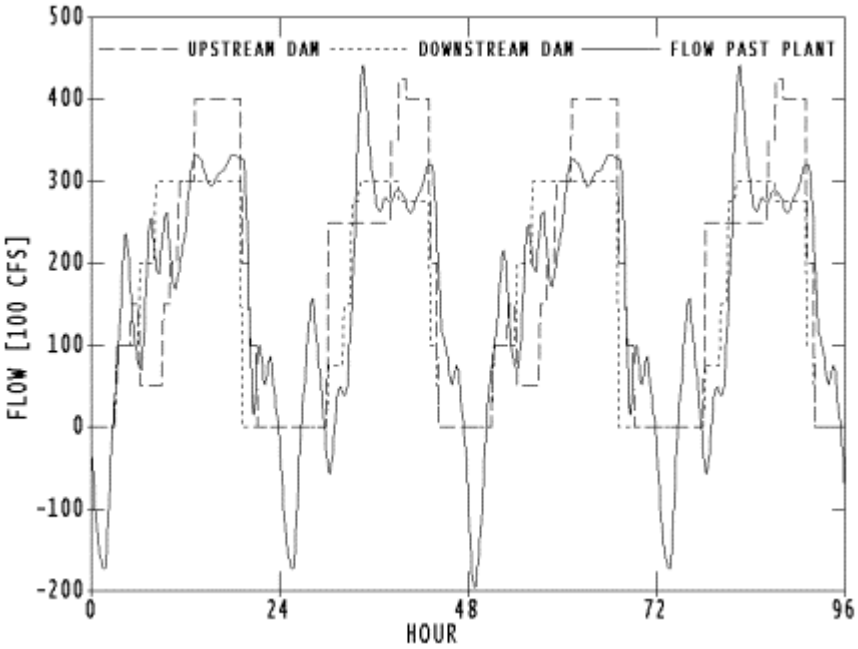


Figure 8. Typical Reservoir Flows

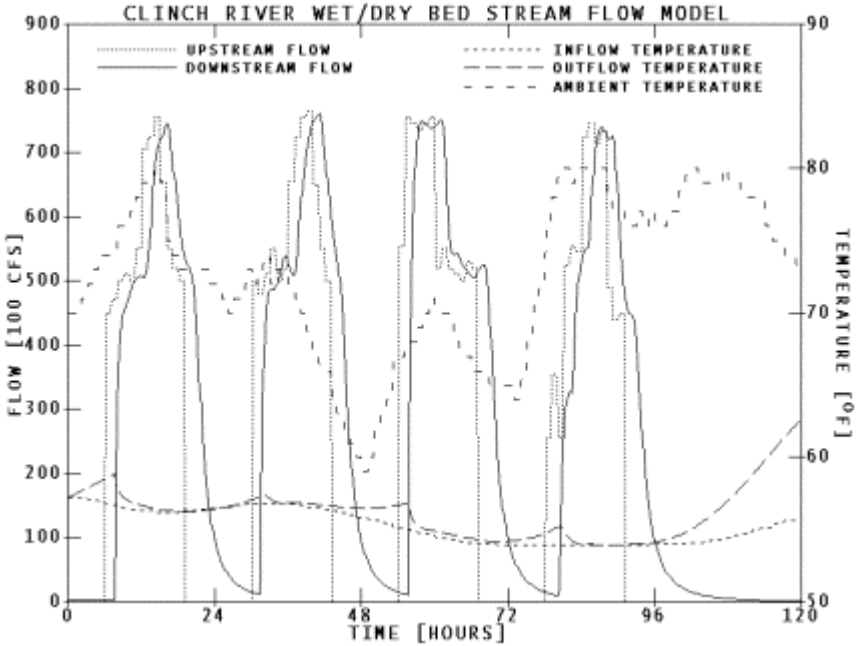


Figure 9. Kinematic Wave Model Results

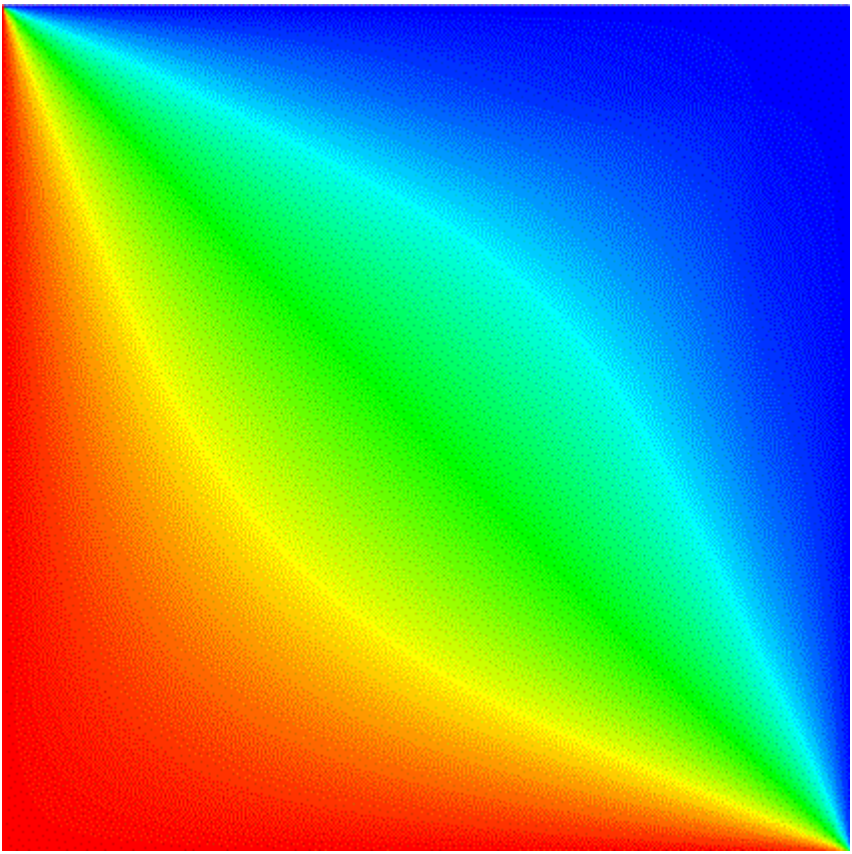


Figure 10. Solution to Laplace's Equation

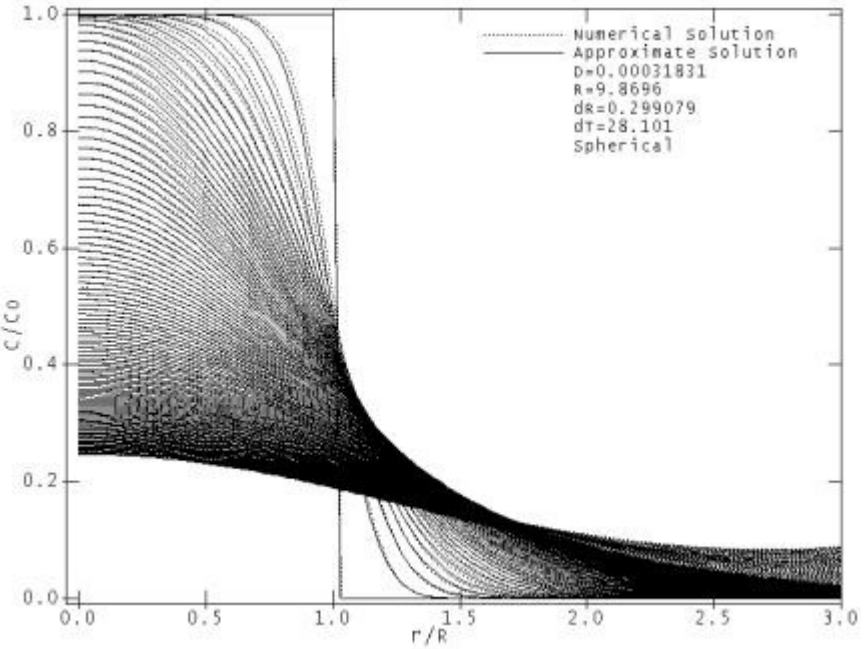


Figure 11. Spherical Solution

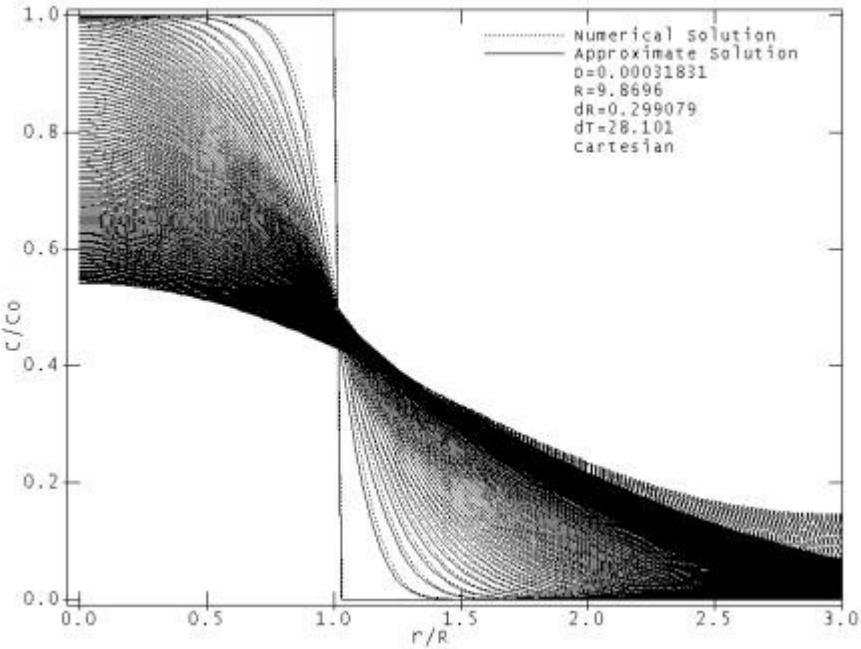


Figure 12. Cartesian Solution

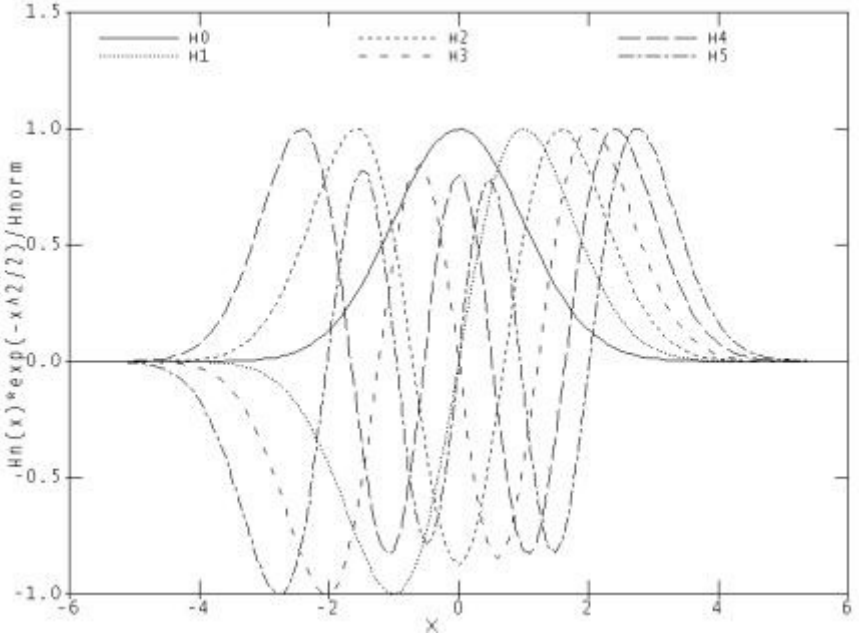


Figure 13. First Six Hermite Polynomials

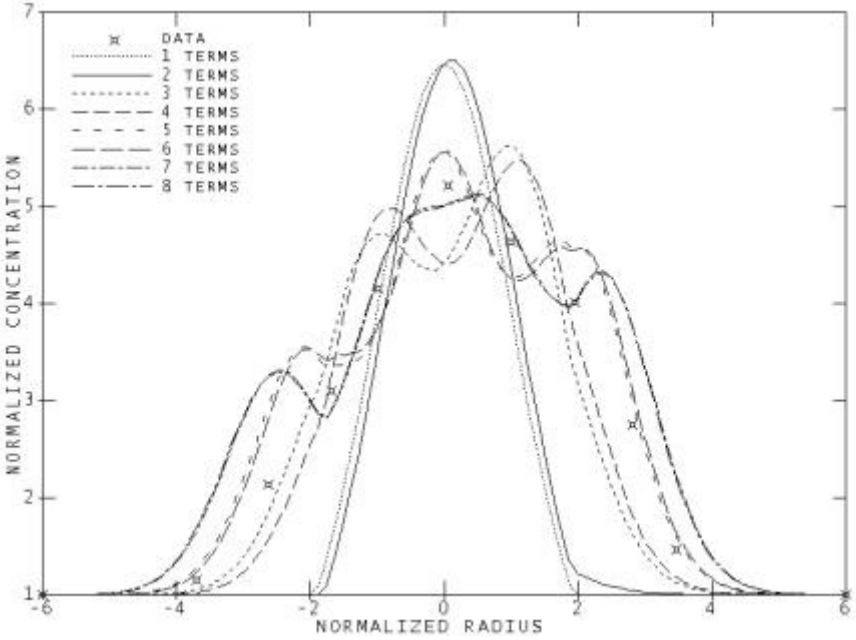


Figure 14. Typical 8-Term Approximation

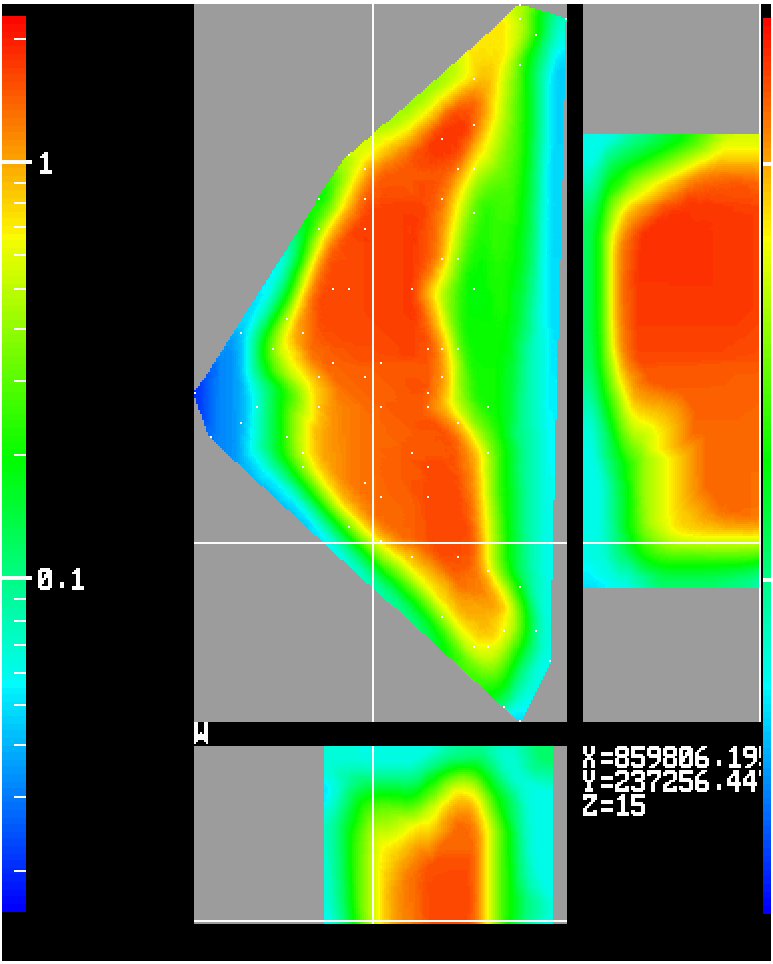


Figure 15. Slices Through A Typical 3D Field

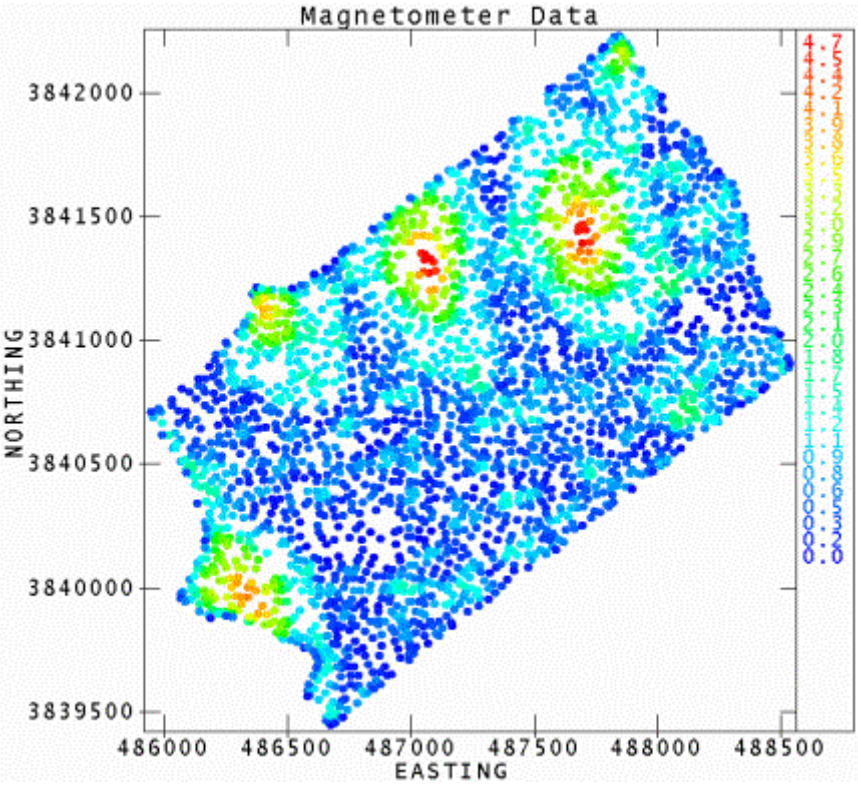


Figure 16. Magnetometer Data (Before Analysis)

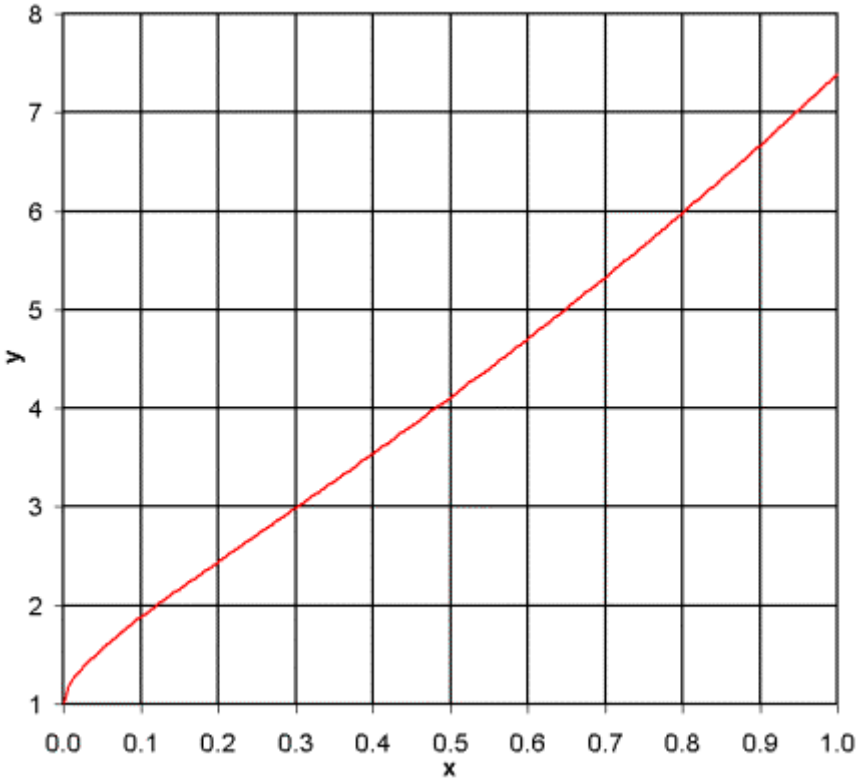


Figure 17. ODE Solution

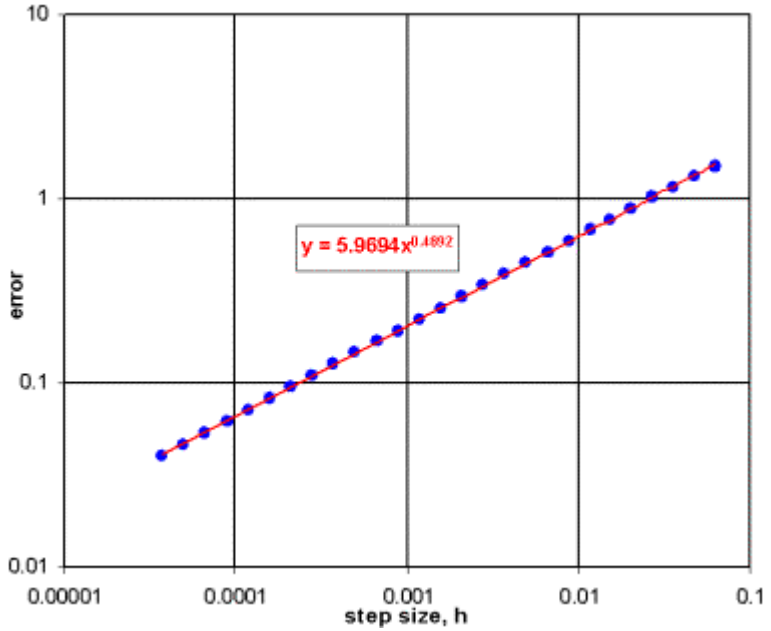


Figure 18. Error vs. Step Size for RK4

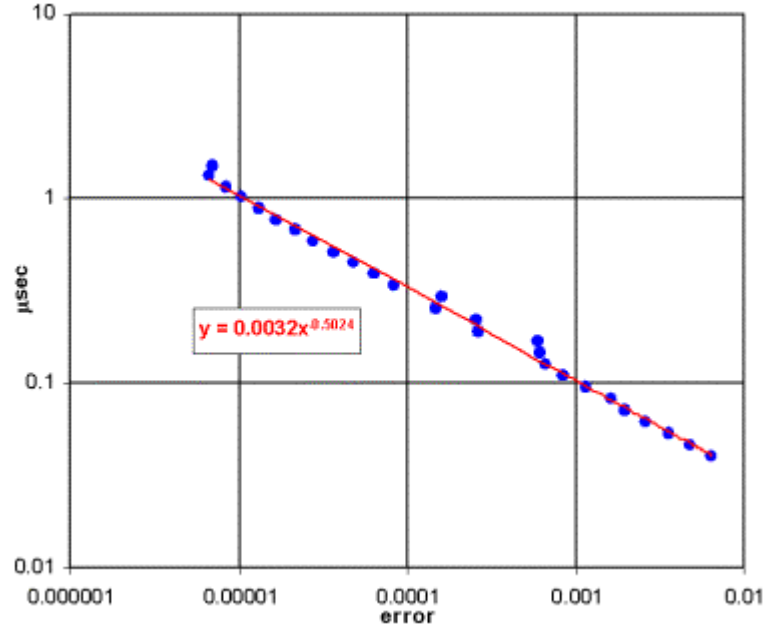


Figure 19. Runtime vs. Error for RK4

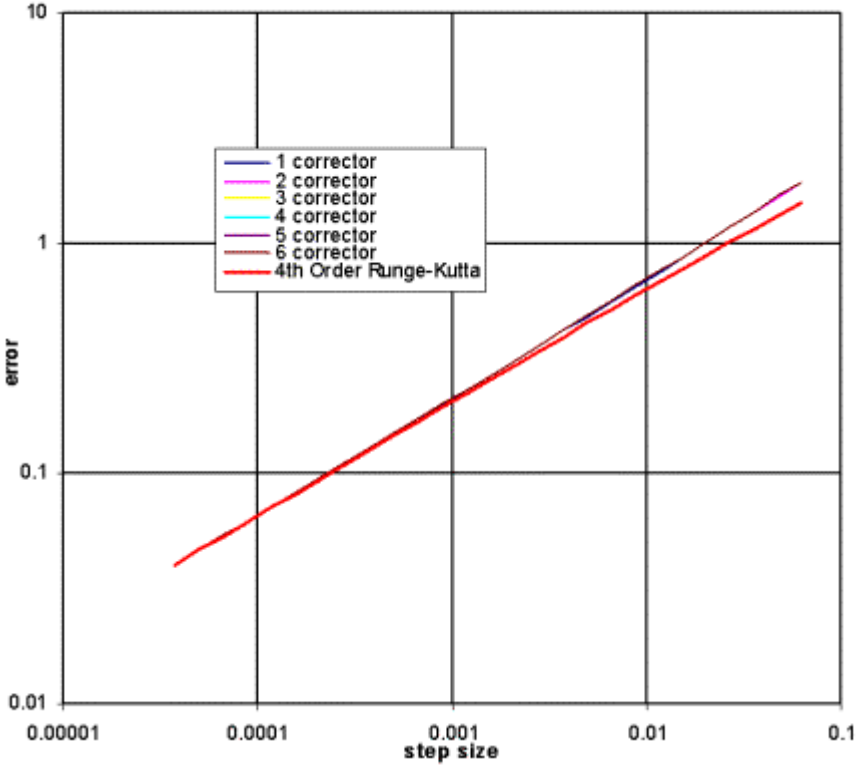


Figure 20. Error vs. Step Size for RK4 and Milne's Method

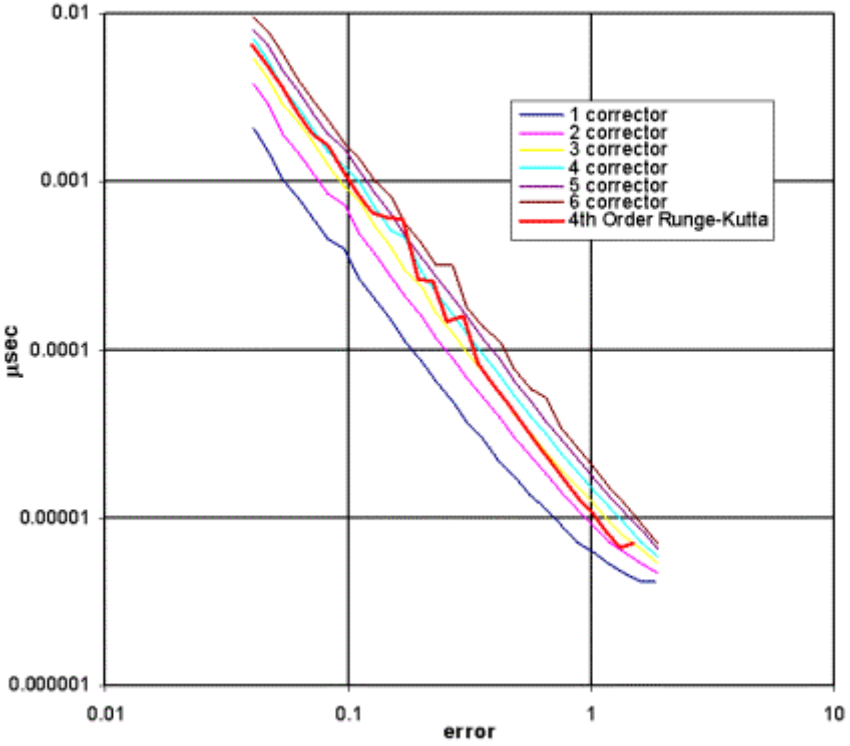


Figure 21. Runtime vs. Error for RK4 and Milne's Method

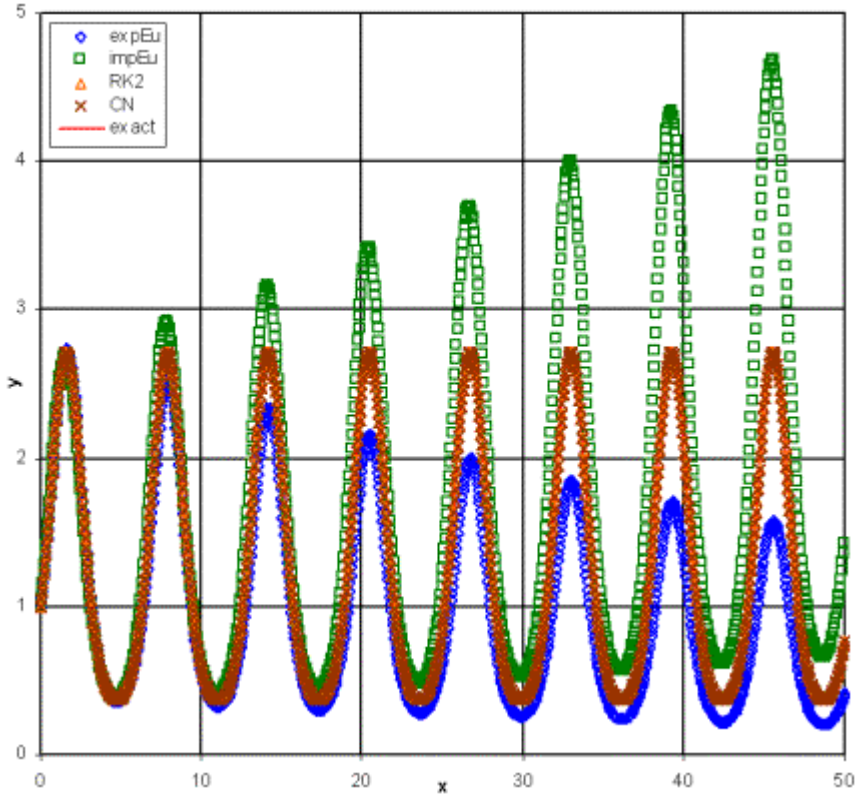


Figure 22. Numerical Solutions to First Problem

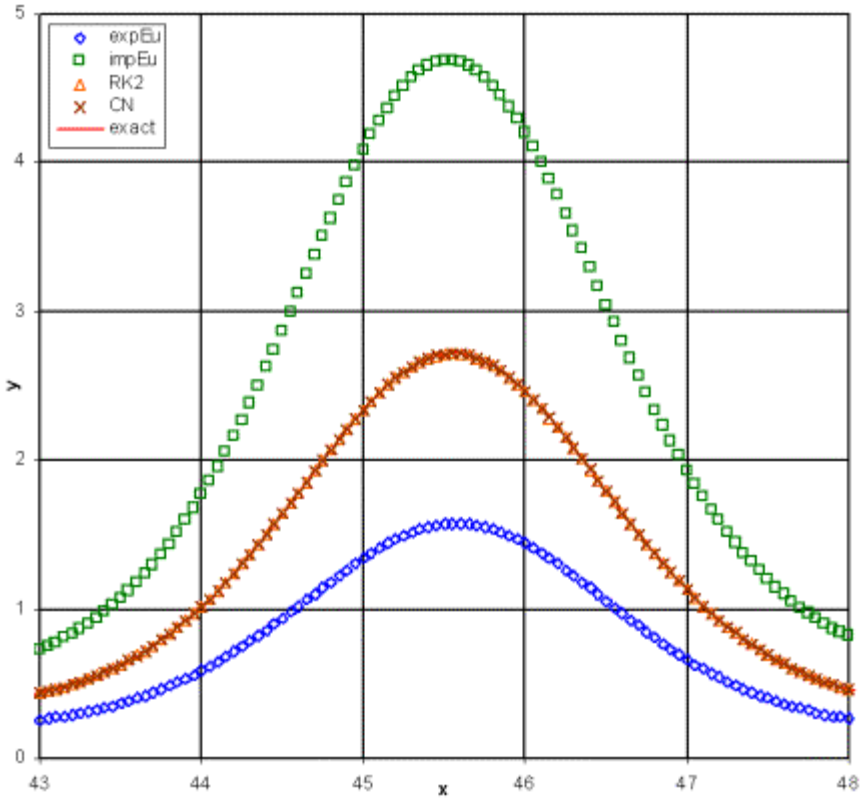


Figure 23. Exploded View of First Problem

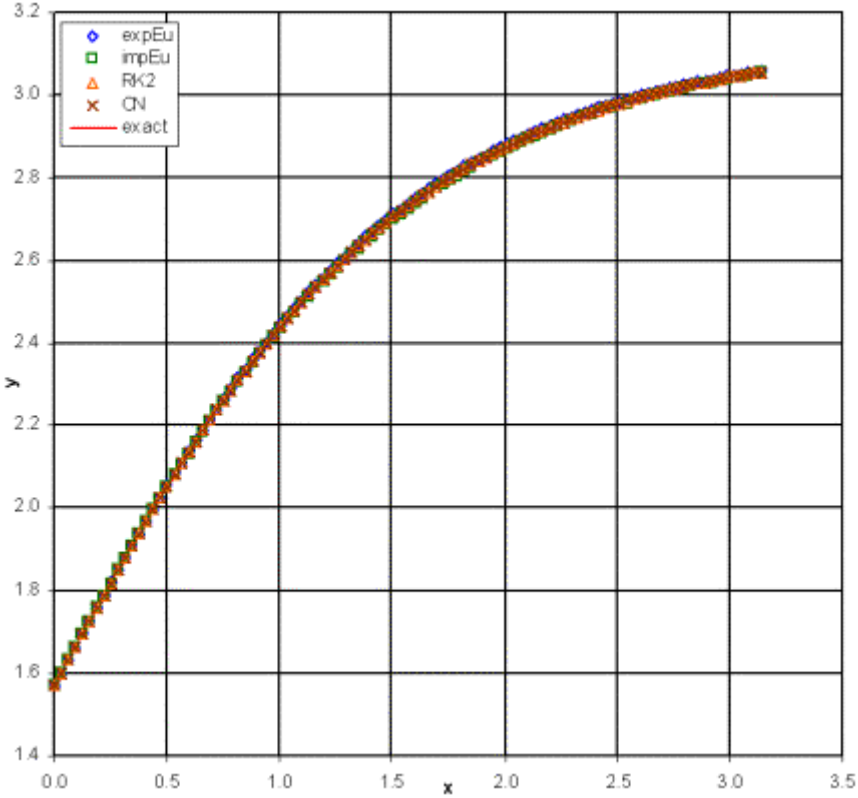


Figure 24. Numerical Solutions to Second Problem

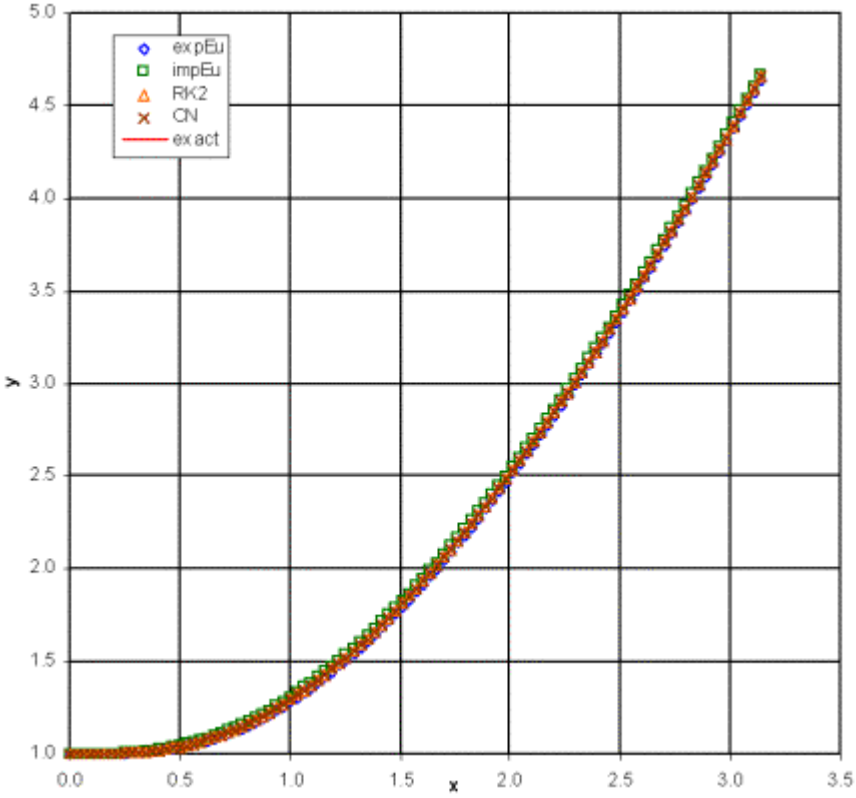


Figure 25. Numerical Solutions to Third Problem

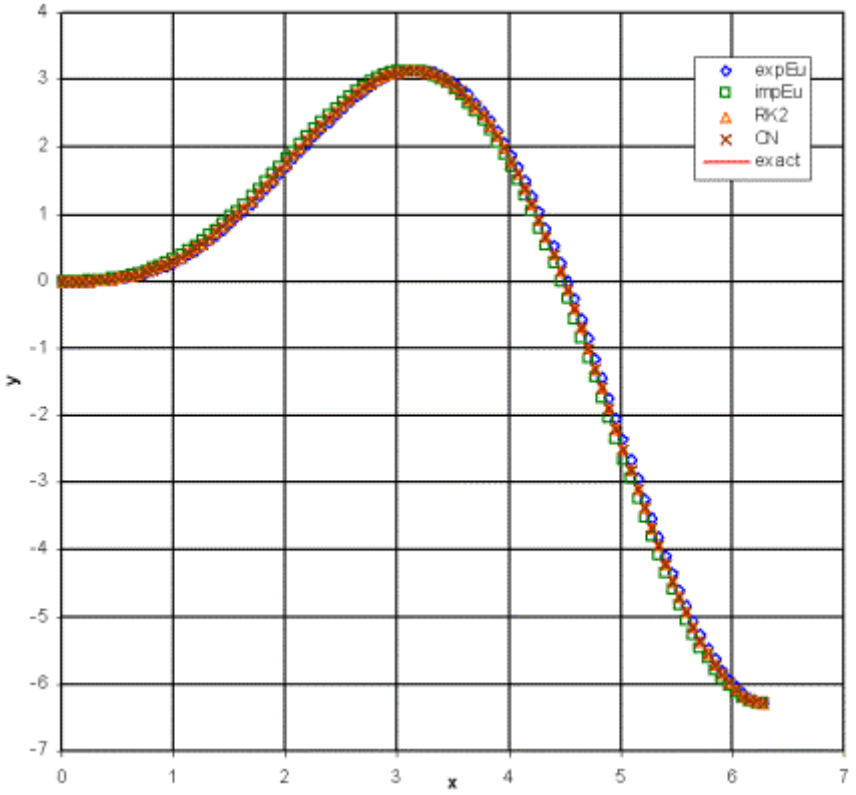


Figure 26. Numerical Solutions to Fourth Problem

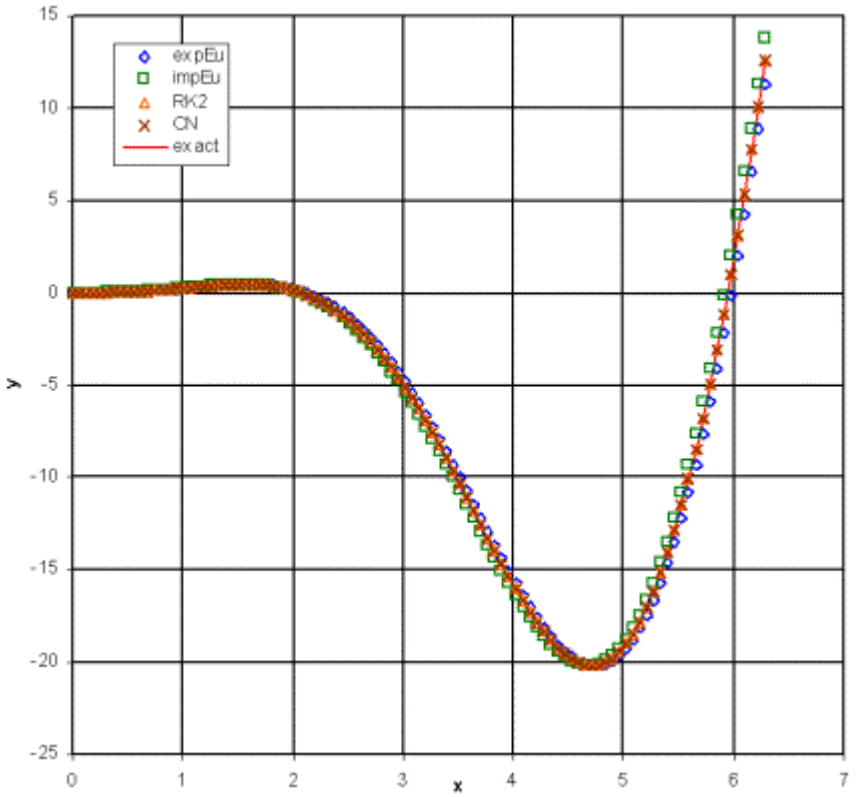


Figure 27. Numerical Solutions to Fifth Problem

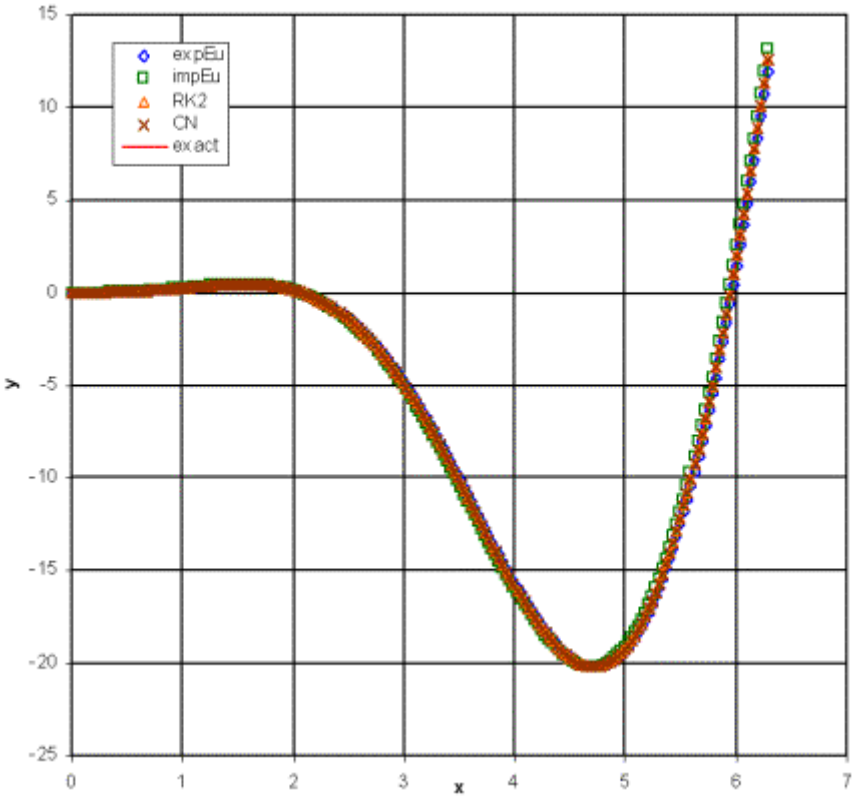
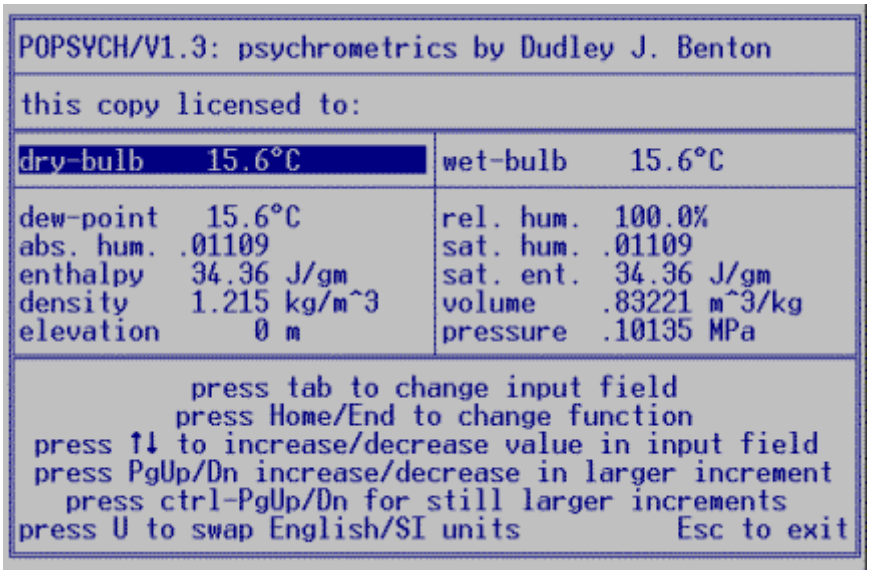


Figure 28. Numerical Solutions to Fifth Problem (with h/2)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this copy licensed to:
dry-bulb 15.6°C
wet-bulb 15.6°C
dew-point 15.6°C
abs. hum. .01109
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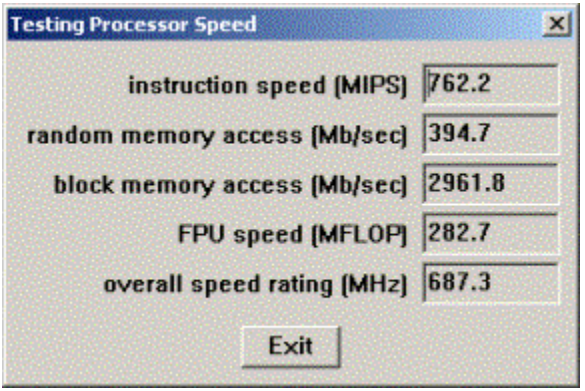
density 1.215 kg/m^3
elevation 0 m
rel. hum. 100.0%
sat. hum. .01109
sat. ent. 34.36 J/gm
volume .83221 m^3/kg
pressure .10135 MPa
press tab to change input field
press Home/End to change function
press ↑↓ to increase/decrease value in input field
press PgUp/Dn increase/decrease in larger increment
press ctrl-PgUp/Dn for still larger increments
press U to swap English/SI units
Esc to exit


Testing Processor Speed
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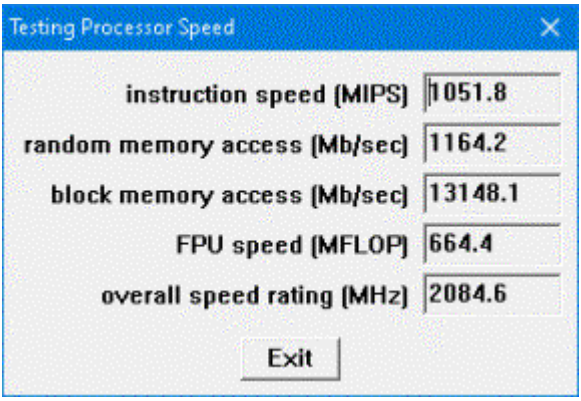
block memory access (Mb/sec) 2961.8
FPU speed (MFLOP) 282.7
overall speed rating (MHz) 687.3
Exit


Testing Processor Speed
instruction speed (MIPS)
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random memory access (Mb/sec)
1164.2
block memory access (Mb/sec)
13148.1
FPU speed (MFLOP)
664.4
overall speed rating (MHz)
2084.6
Exit