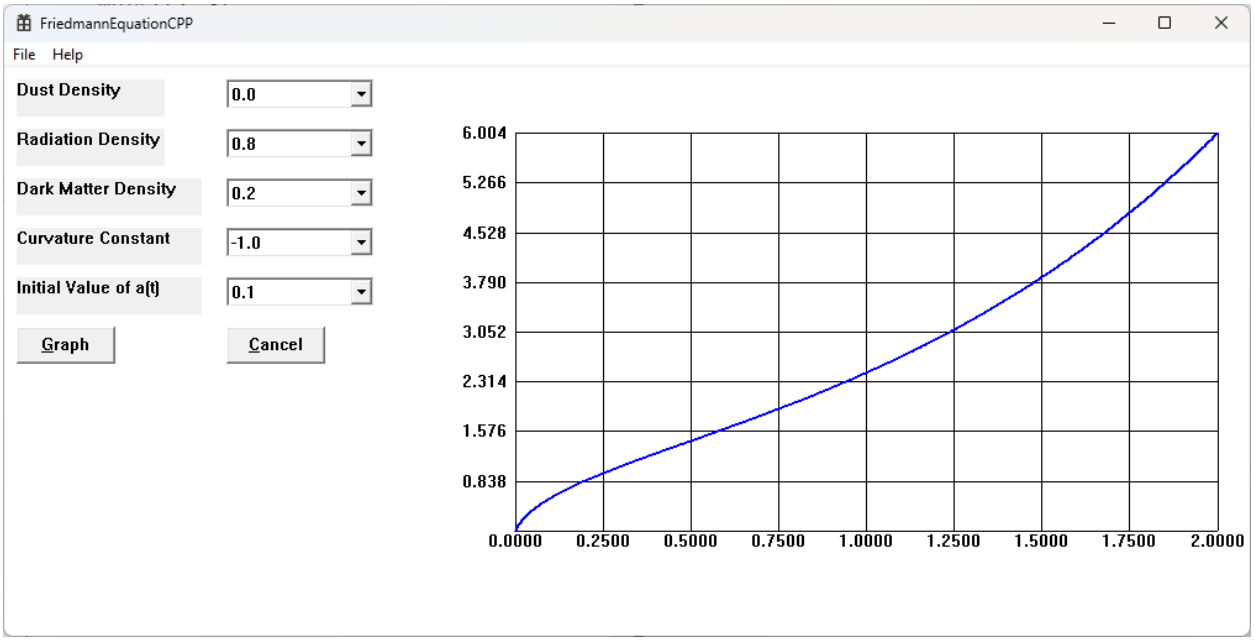
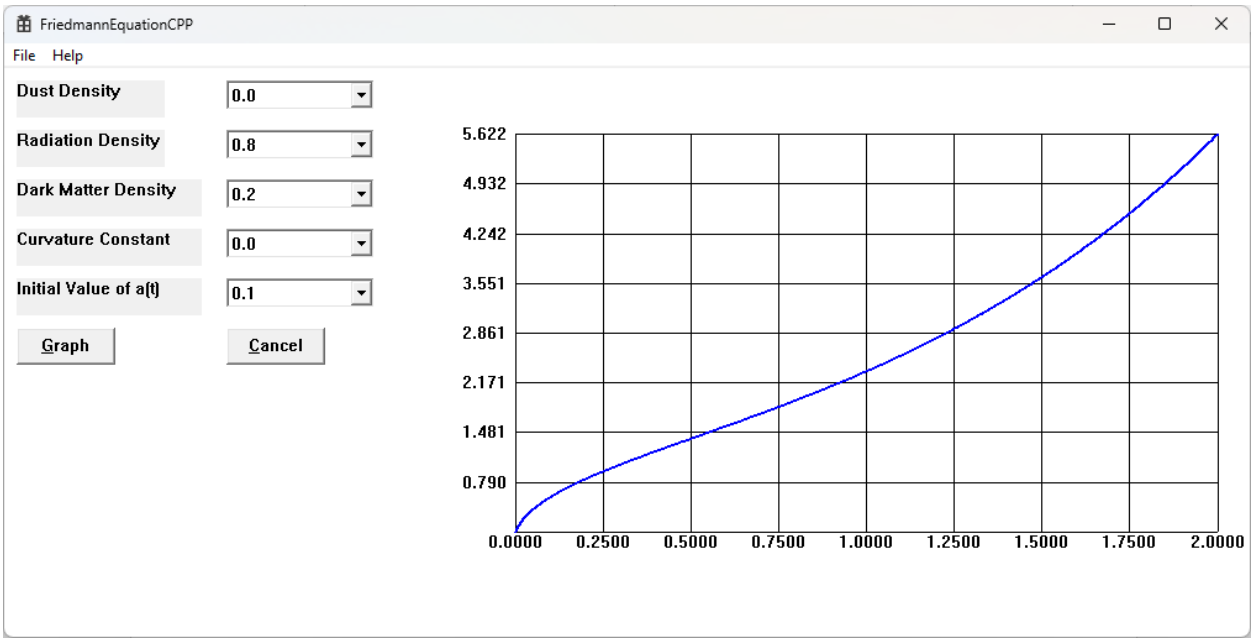
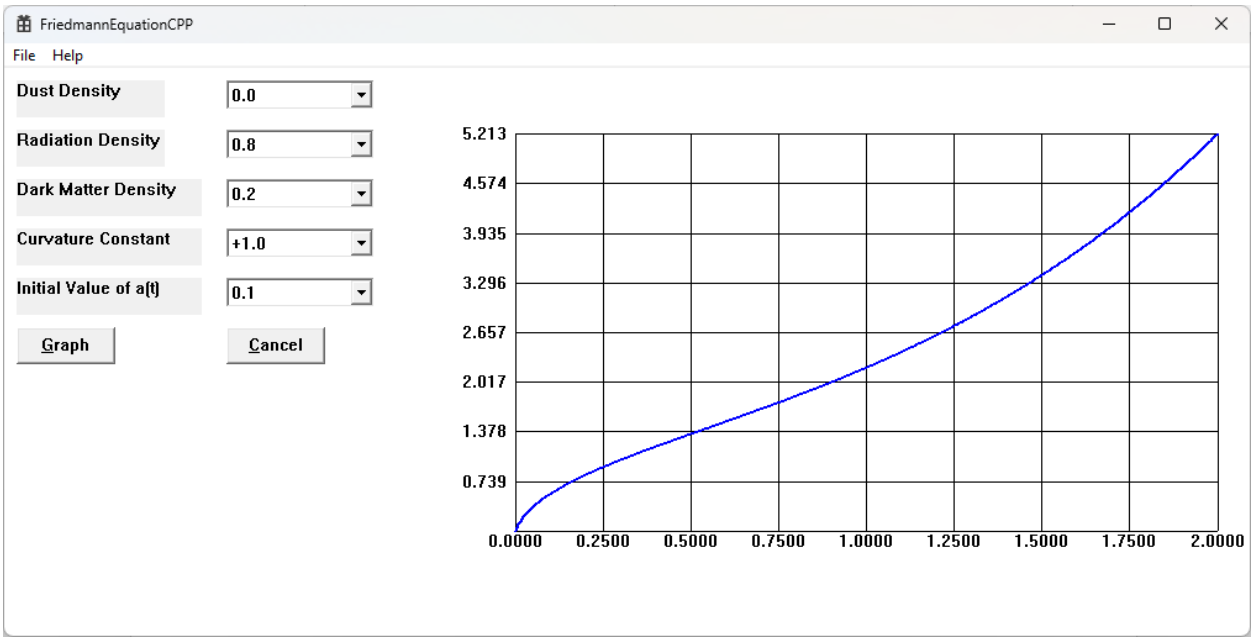
Blog Entry © Thursday, September 11, 2025, by James Pate Wiliams, Jr. Modeling the Friedmann Equation in the Early Universe

References: Friedmann equations - Wikipedia and ***Elementary Numerical Analysis an Algorithmic Approach*** by S. D. Conte and Carl de Boor






FriedmannEquationCPP
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Radiation Density
0.8
Dark Matter Density
0.2
Curvature Constant
+1.0
Initial Value of a(t)
0.1
Graph
Cancel
5.213
4.574
3.935
3.296
2.657
2.017
1.378
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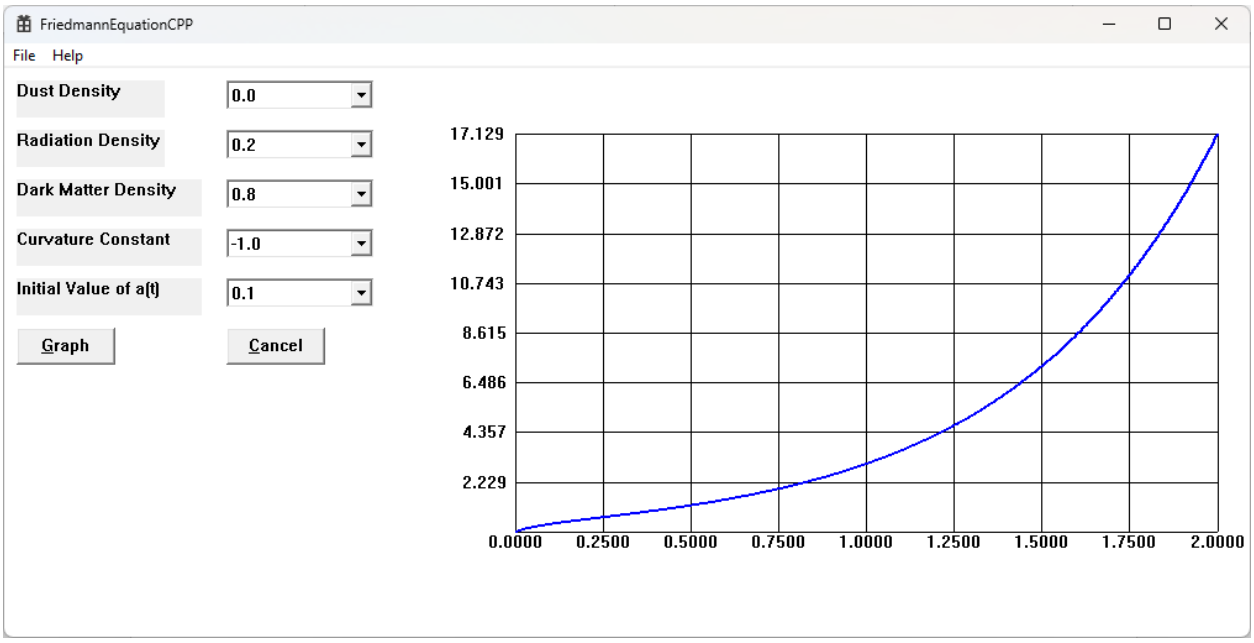
FriedmannEquationCPP
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Radiation Density
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Dark Matter Density
0.8
Curvature Constant
-1.0
Initial Value of a(t)
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Graph
Cancel
17.129
15.001
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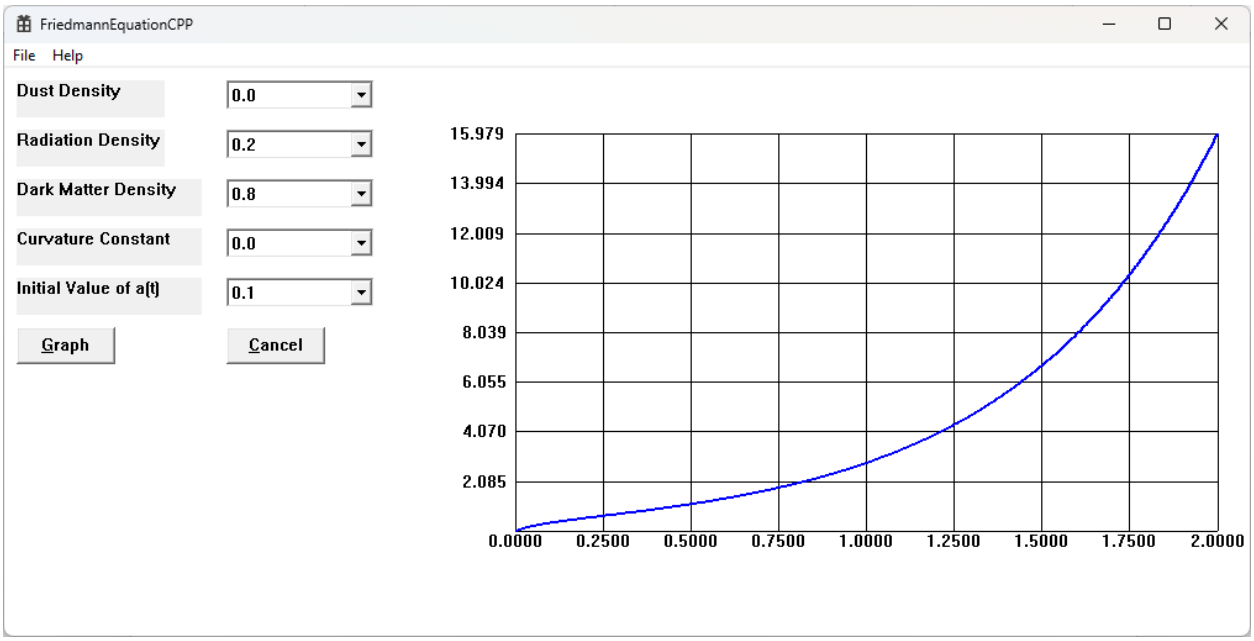
FriedmannEquationCPP
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Dust Density
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Radiation Density
0.2
Dark Matter Density
0.8
Curvature Constant
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Initial Value of a(t)
0.1
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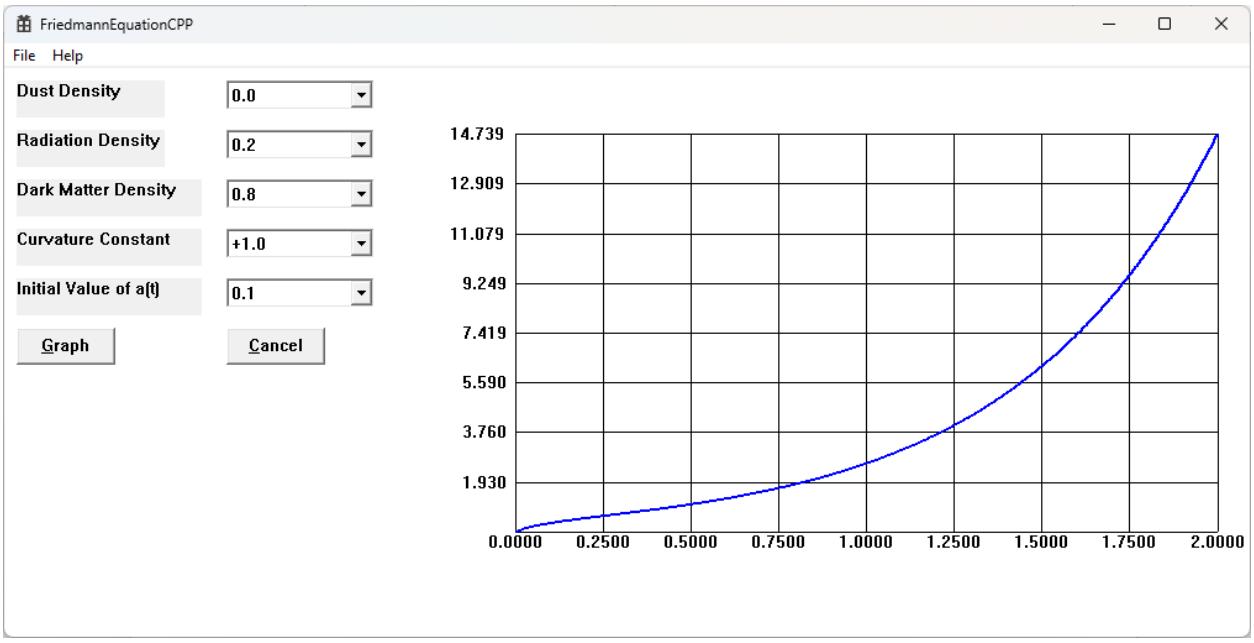
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Dust Density
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Radiation Density
0.2
Dark Matter Density
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Curvature Constant
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Initial Value of a(t)
0.1
Graph
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1.930
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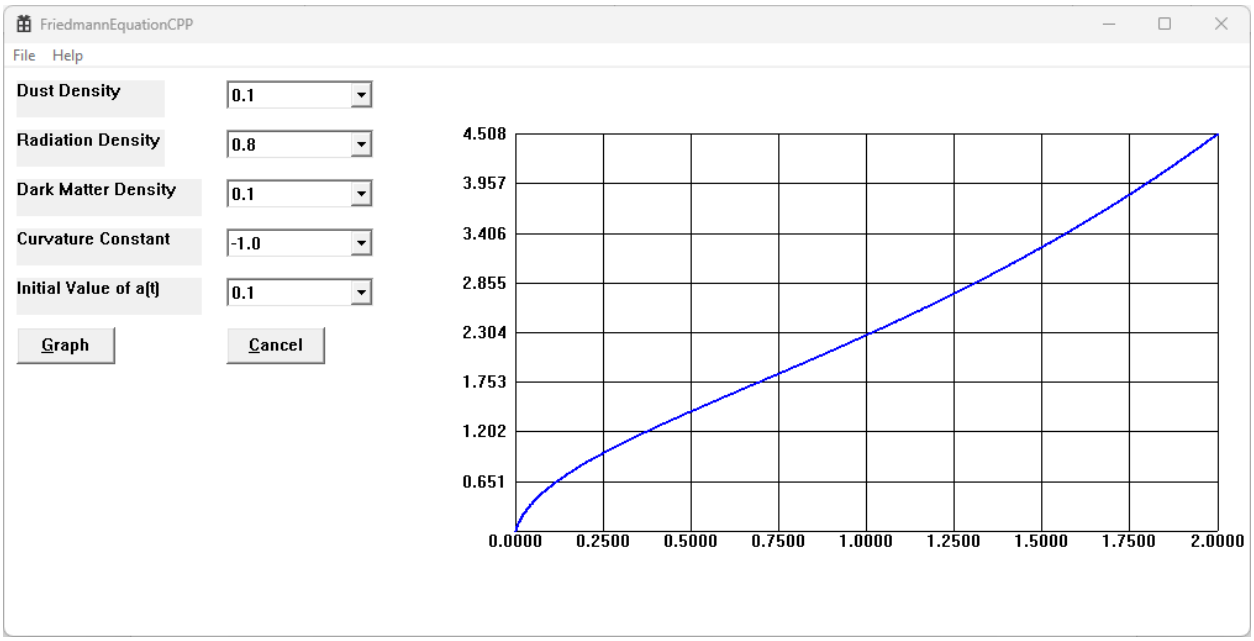
FriedmannEquationCPP
File Help
Dust Density
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Radiation Density
0.8
Dark Matter Density
0.1
Curvature Constant
-1.0
Initial Value of a(t)
0.1
Graph
Cancel
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3.957
3.406
2.855
2.304
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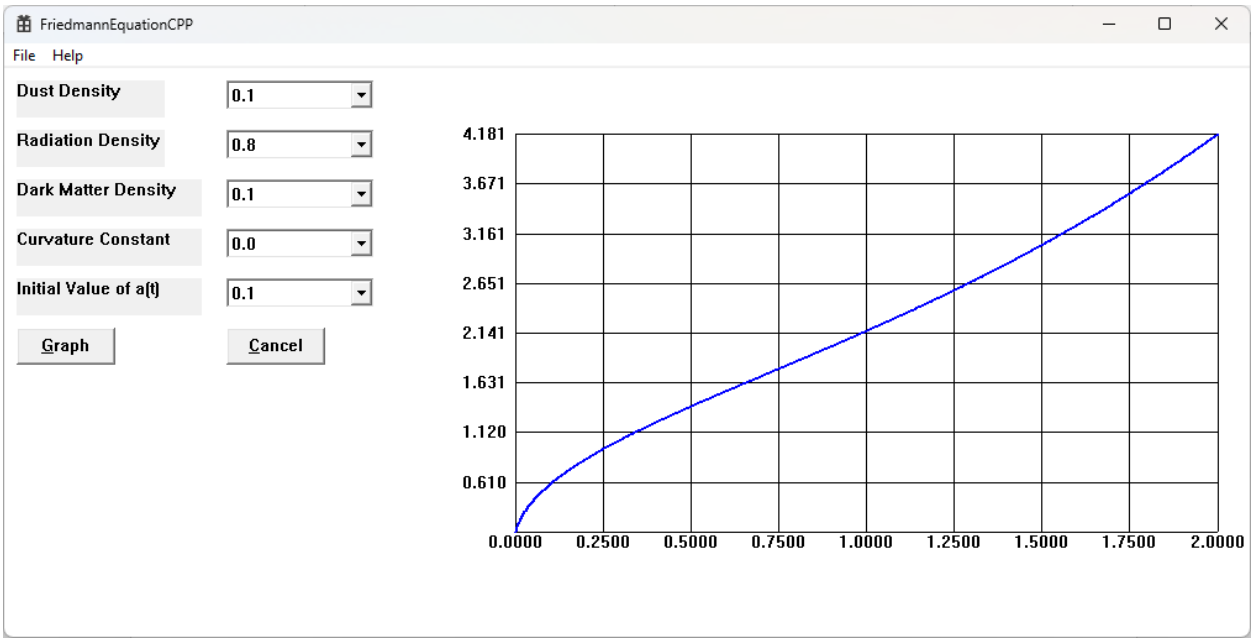
1.5000
1.7500
2.0000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Dust Density
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Radiation Density
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Dark Matter Density
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Curvature Constant
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Initial Value of a(t)
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Graph
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3.161
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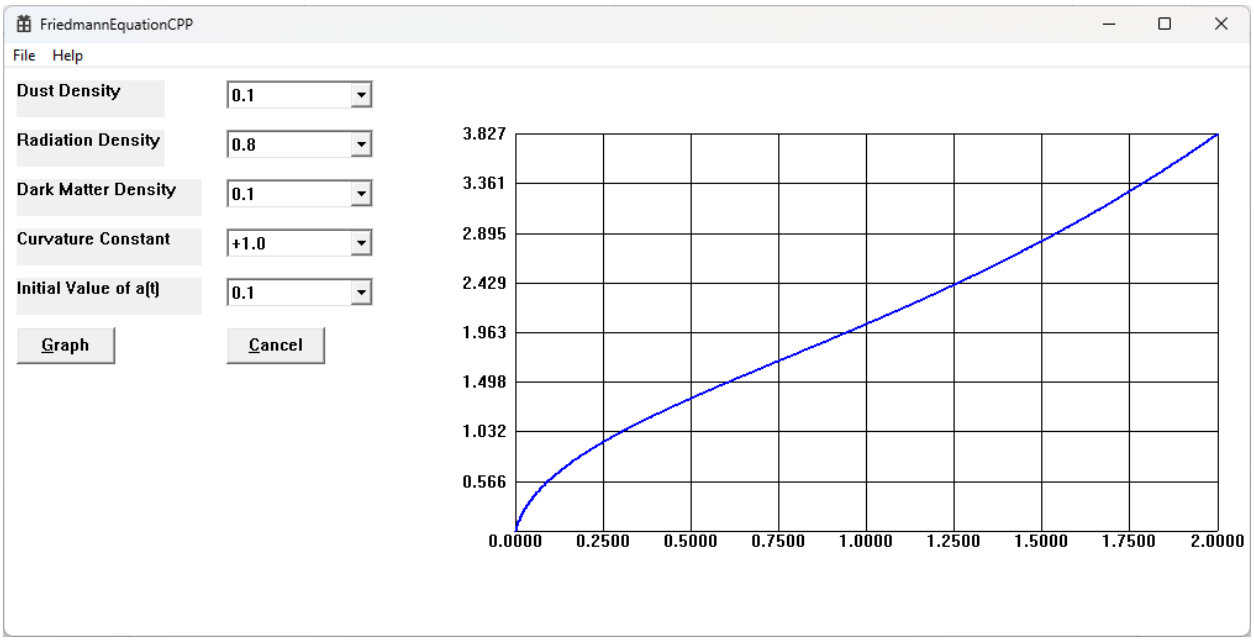
1.7500
2.0000


FriedmannEquationCPP
File Help
Dust Density
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Radiation Density
0.8
Dark Matter Density
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Curvature Constant
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Initial Value of a(t)
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Graph
Cancel
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3.361
2.895
2.429
1.963
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1.032
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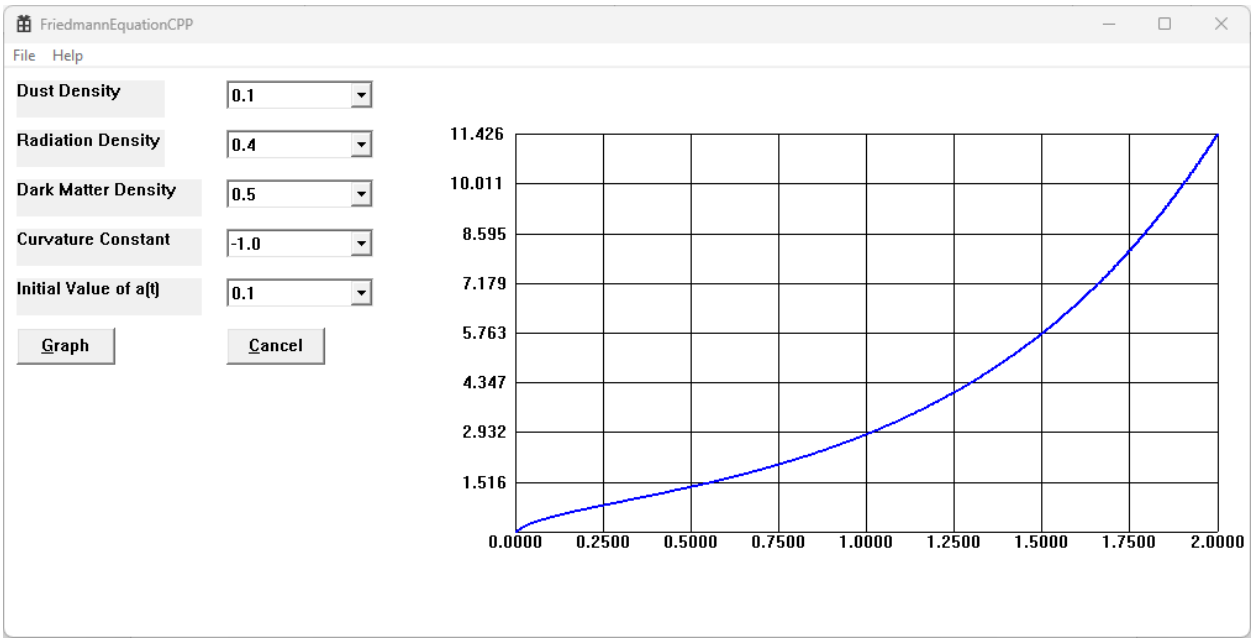
0.7500
1.0000
1.2500
1.5000
1.7500
2.0000


FriedmannEquationCPP
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Radiation Density
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Dark Matter Density
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Curvature Constant
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Initial Value of a(t)
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Graph
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7.179
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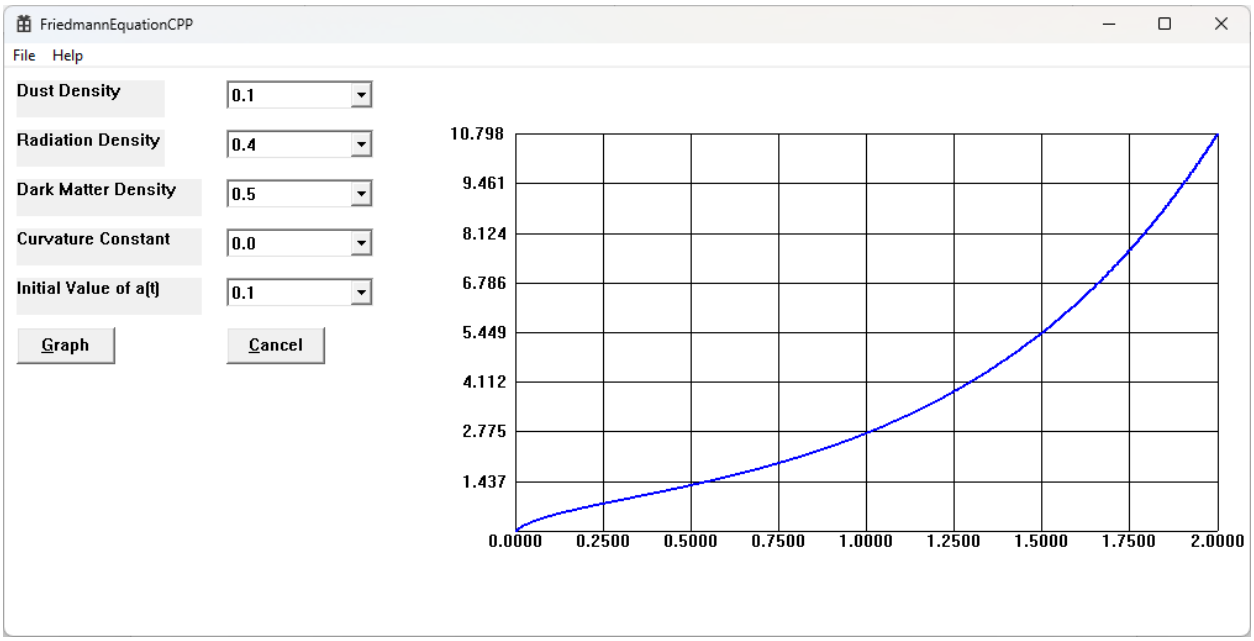

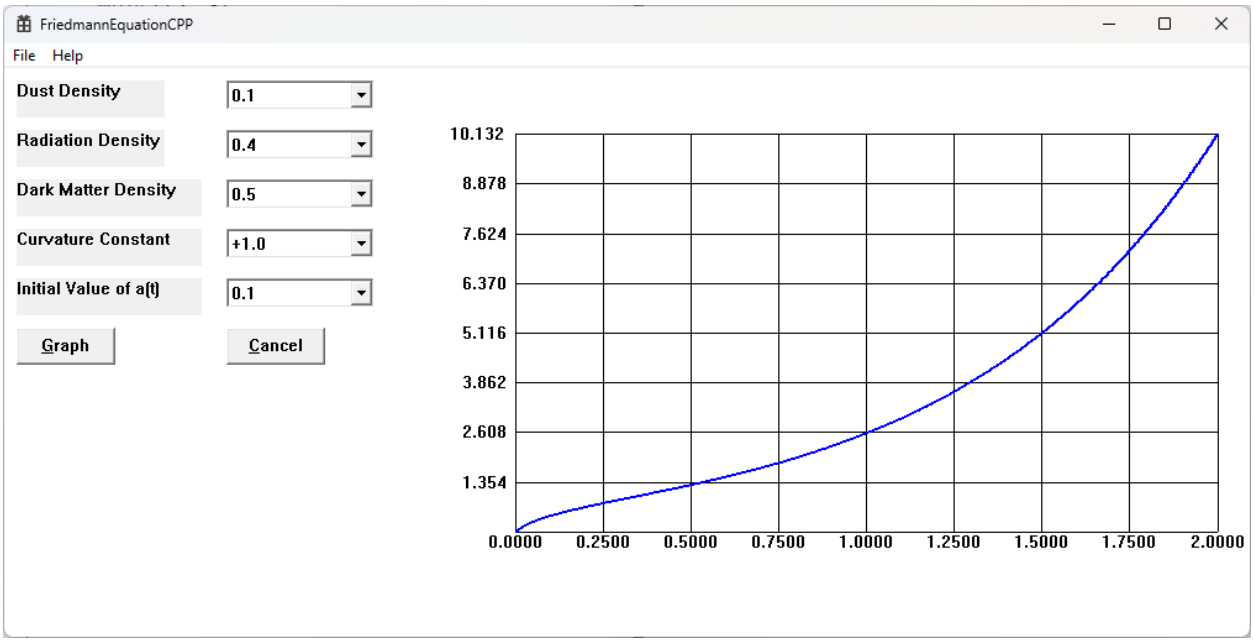

Never forget the brave and intrepid first responders and civilians that died in the September 11, 2001 terrorist debacle.