1 Part I

1.1 Aerofoil Generation

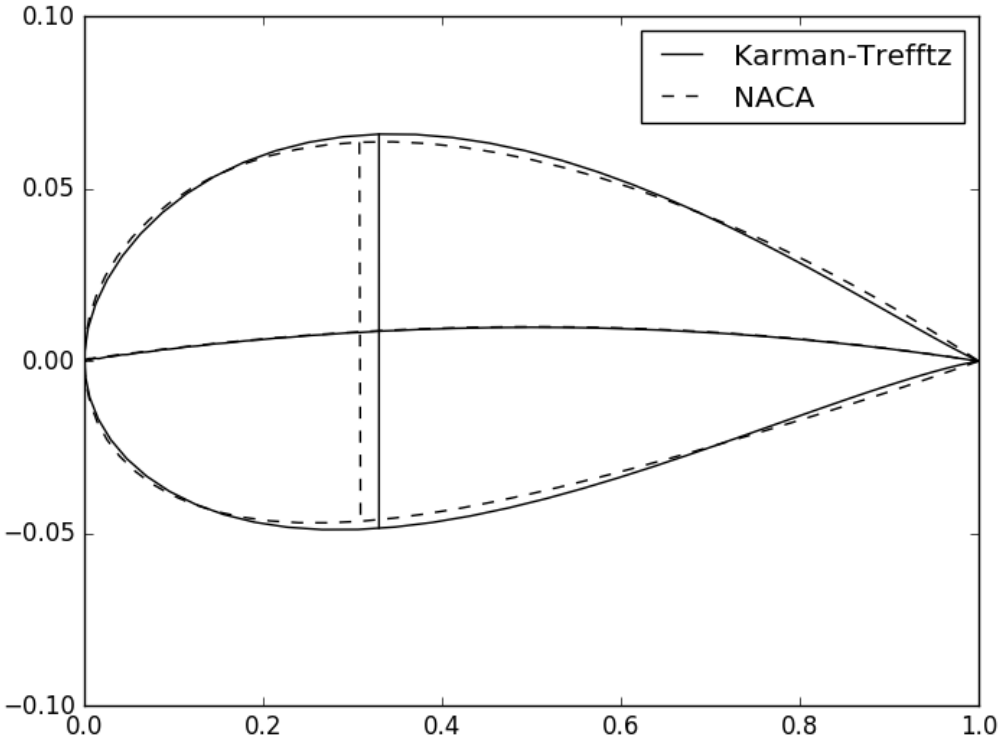

Figure 1: A comparison between a Karman-Trefftz aerofoil and its closest NACA aerofoil.

1.2 Parameter Variation

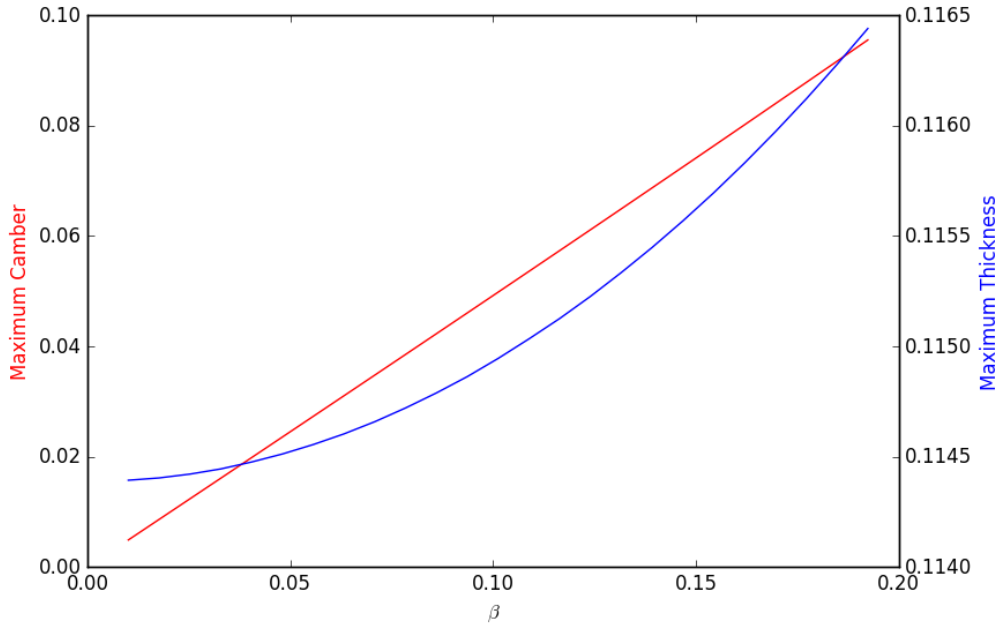

Figure 2: How maximum thickness and maximum camber change with β.

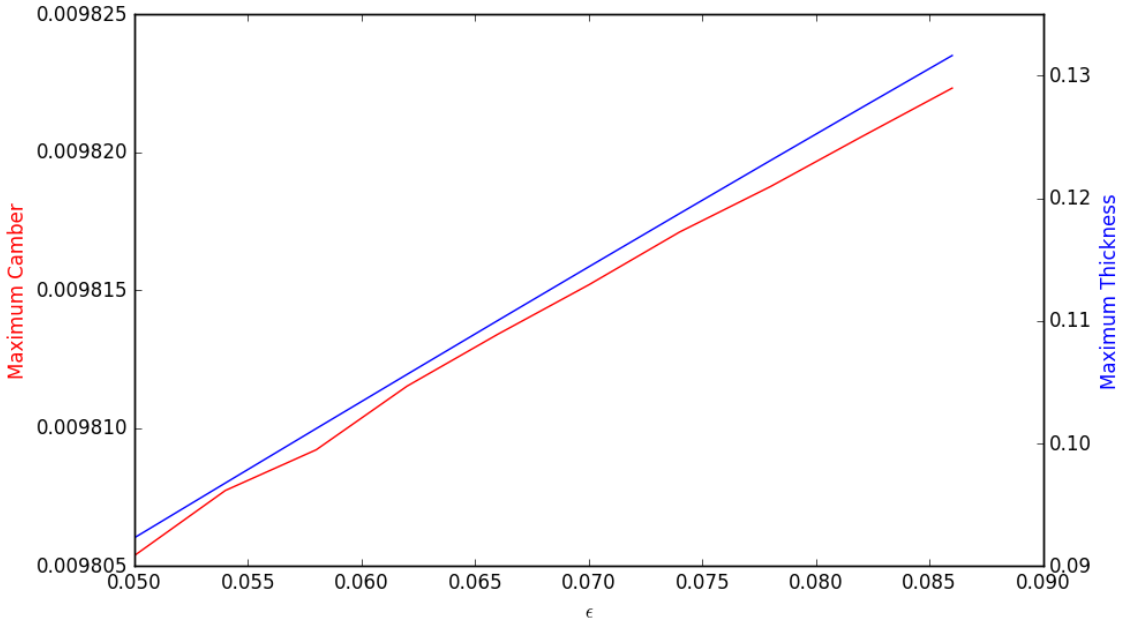

Figure 3: How maximum thickness and maximum camber change with ϵ.

2 Part II

2.1 Doublet Panel Method Accuracy

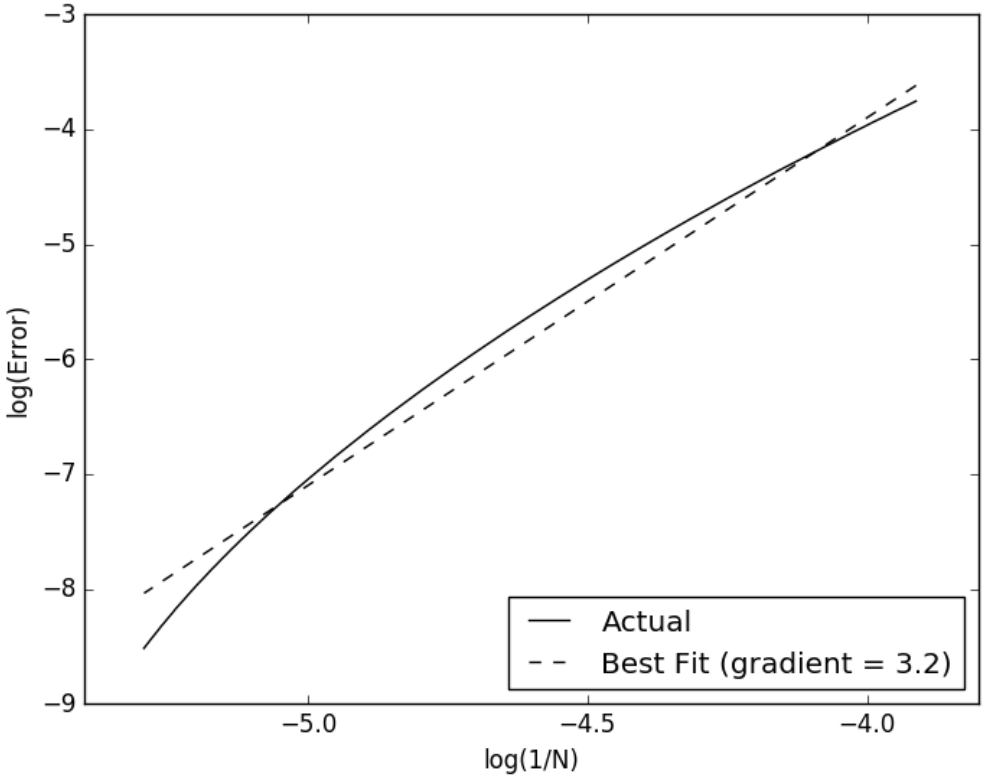

Figure 4: Accuracy of the Doublet Panel Method.

2.2 NACA and Karman-Trefftz Performance Comparison

2.2.1 Lift, Drag, and Stall Characteristics

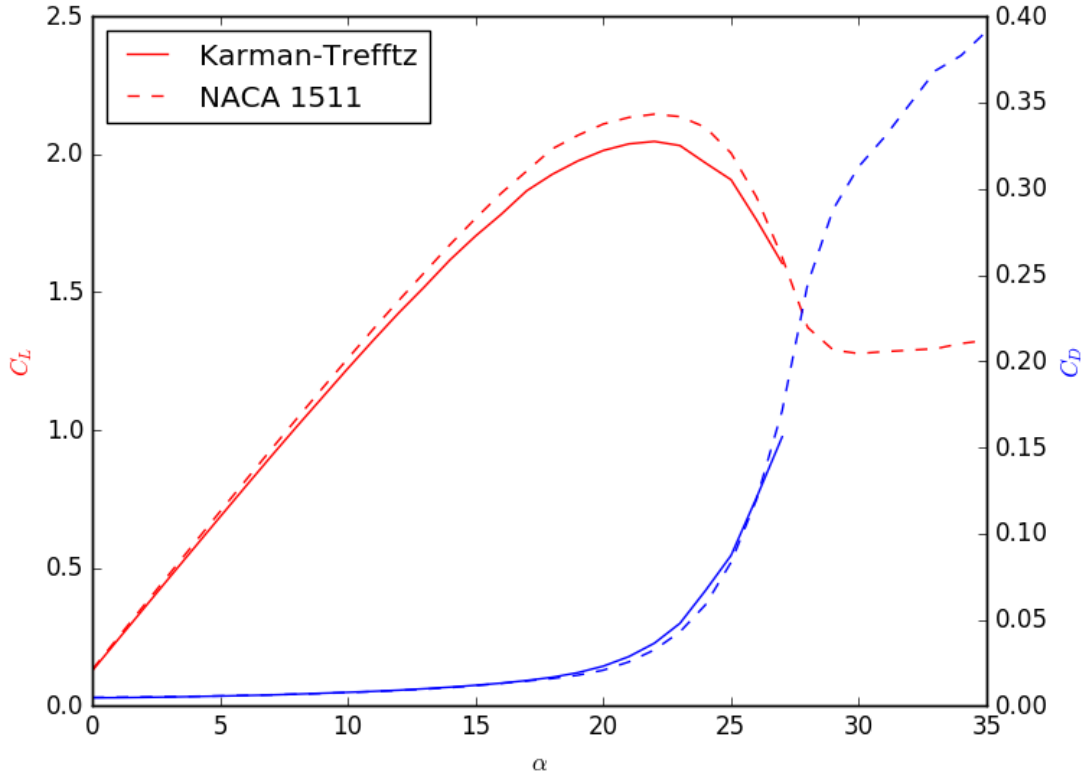

Figure 5: Lift, drag, and stall characteristics for the Karman-Trefftz and NACA 1511 aerofoils.

2.2.2 Transition Position

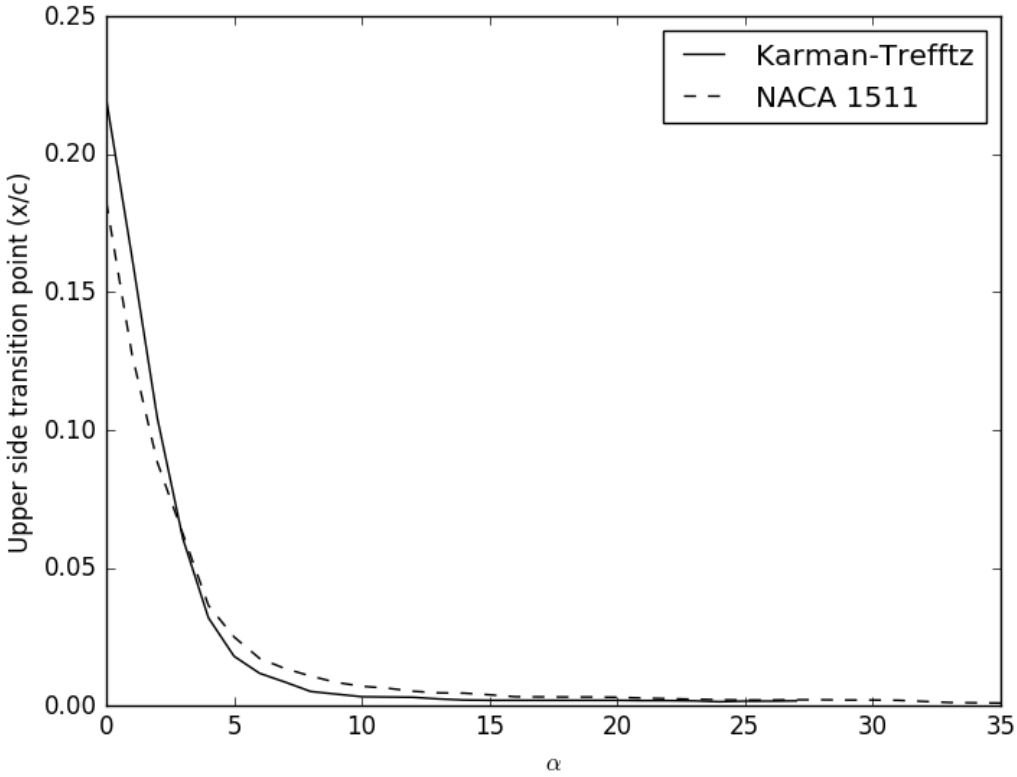

Figure 6: Comparison of transition point between NACA 1511 and Karman-Trefftz aerofoils.

2.2.3 Separation Position

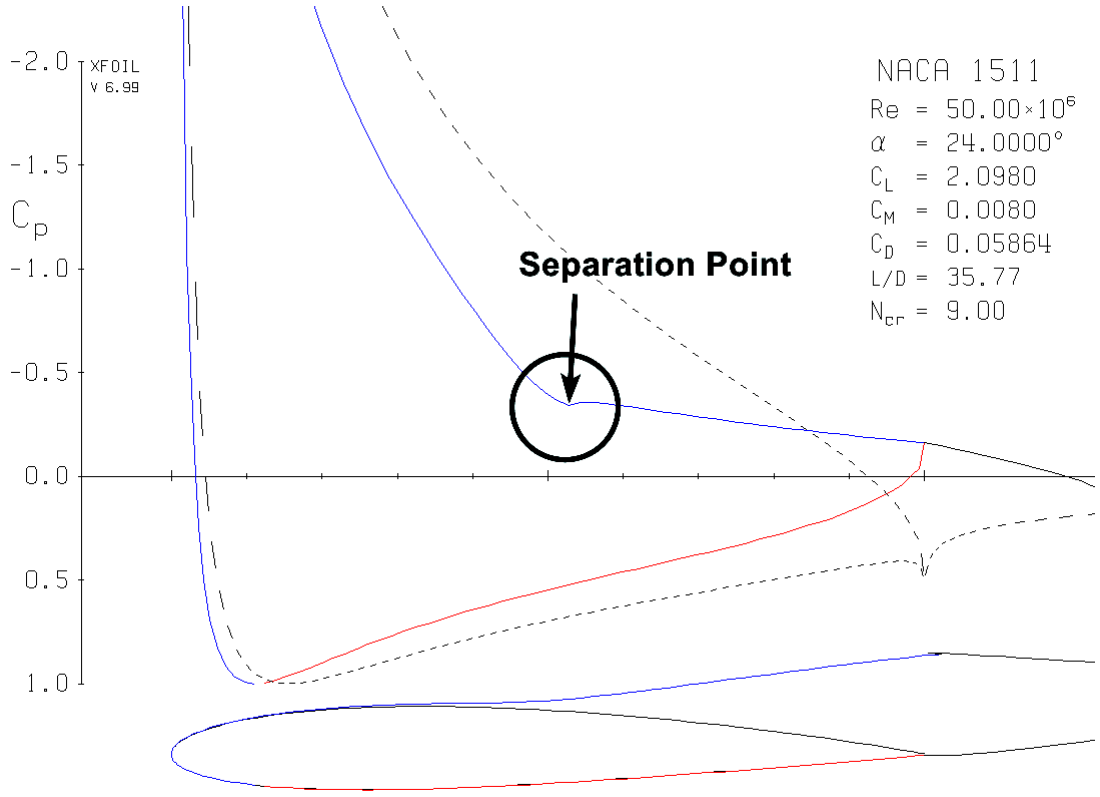

Figure 7: The definition of the separation point used in this coursework.

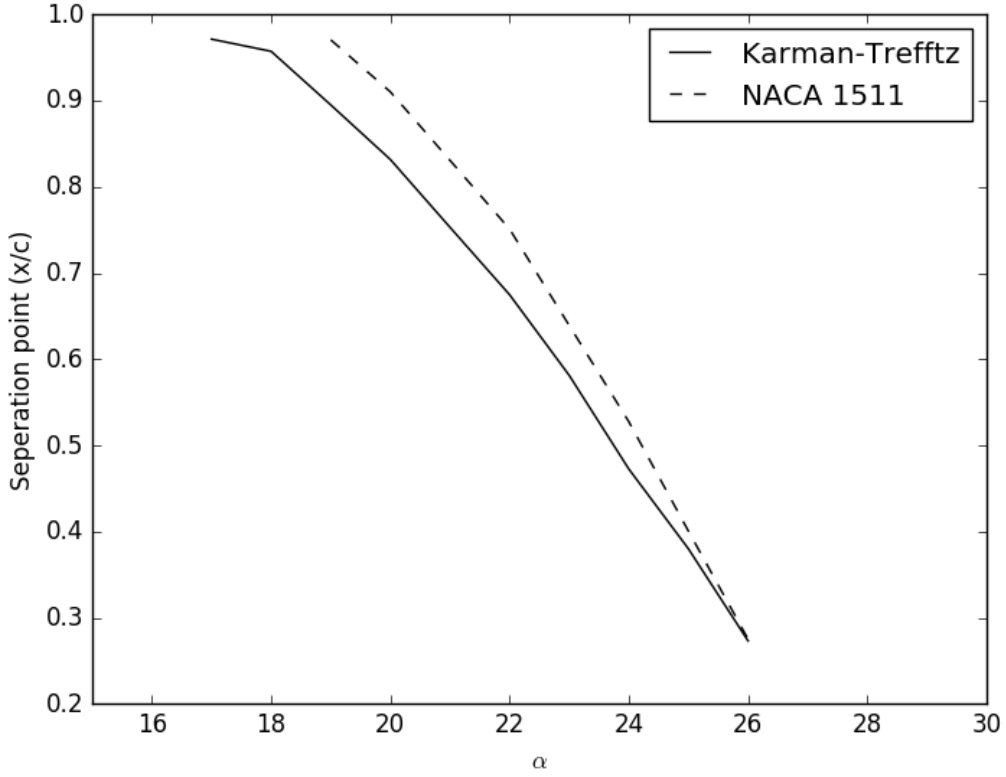

Figure 8: Comparison of separation point between NACA 1511 and Karman-Trefftz aerofoils.