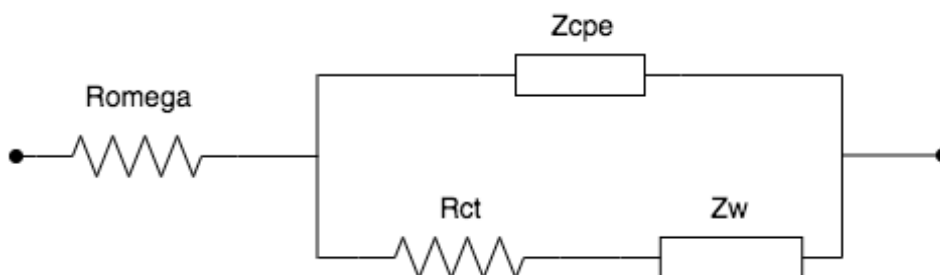


Fitting Curve Sperimentali con Lsqcurvefit ed Evolution Algorithm

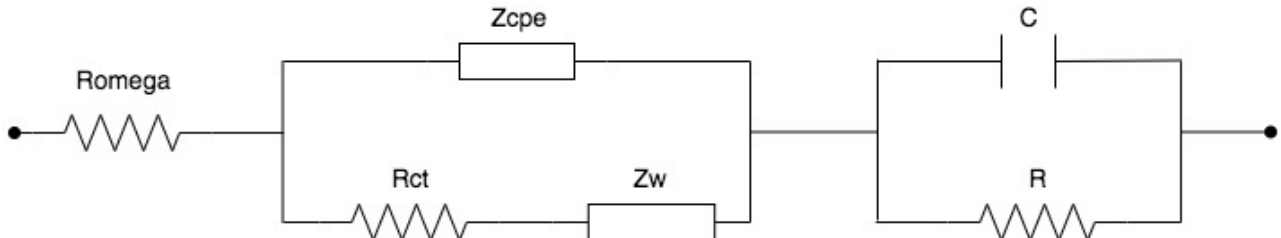
Nel seguente documento sono state prese in considerazione 20 curve sperimentali tra le 450 a disposizione.

Per ognuna di esse è stato effettuato il fitting con Lsqcurvefit ed il genetico, andando ad utilizzare 4 modelli differenti. I modelli utilizzati sono qui sotto riportati:

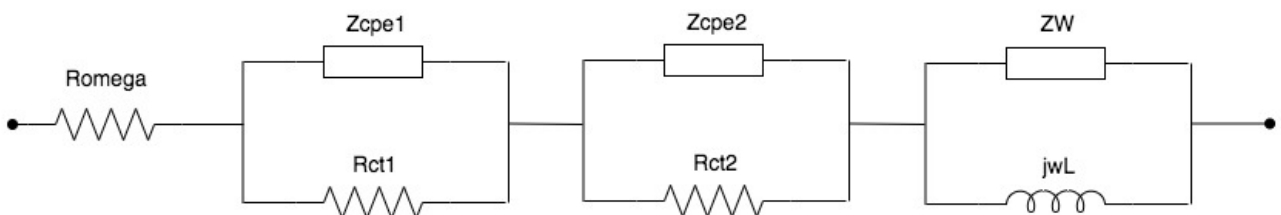
Fouquet Model



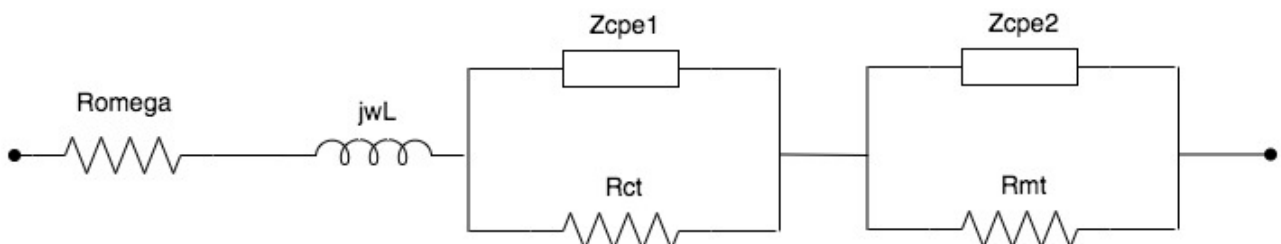
Fouquet + RC Model



Dhirde



Asghari



In base ai risultati ottenuti, sotto riportati, si possono effettuare le seguenti considerazioni:

1. Il modello di Dhirde è l'unico che riesce ad individuare il terzo cerchio quando presente (Come in figura 23).
2. Il modello di Asghari in vari casi non riesce ad effettuare un fitting corretto. Il modello di Asghari si rivela impreciso principalmente quando è presente rumore ad alta frequenza. L'algoritmo cerca quindi di posizionare il primo cerchio ad alta frequenza e, con il secondo cerchio, cerca di approssimare i restanti punti dell'impedenza.
3. Il modello di Fouquet + R_c sembra dare risultati migliori rispetto a Fouquet. Si può vedere che in alcune curve, Fouquet+RC cerca di fittare anche la terza curva, ma il risultato è sempre peggiore rispetto a quanto ottenuto con il modello di Dhirde

Risultati ottenuti

Nelle prossime pagine sono riportati i risultati ottenuti.

In particolare ogni pagina sarà composta dal nome della curva sperimentale e da due grafici che rappresentano rispettivamente il fitting trovato dall'lsqcurvefit e il fitting trovato dall'EA. In ogni grafico è riportata la curva sperimentale e il fitting ottenuto utilizzando i diversi modelli.

170206_1250_dt46_nc_eis-15a_c00

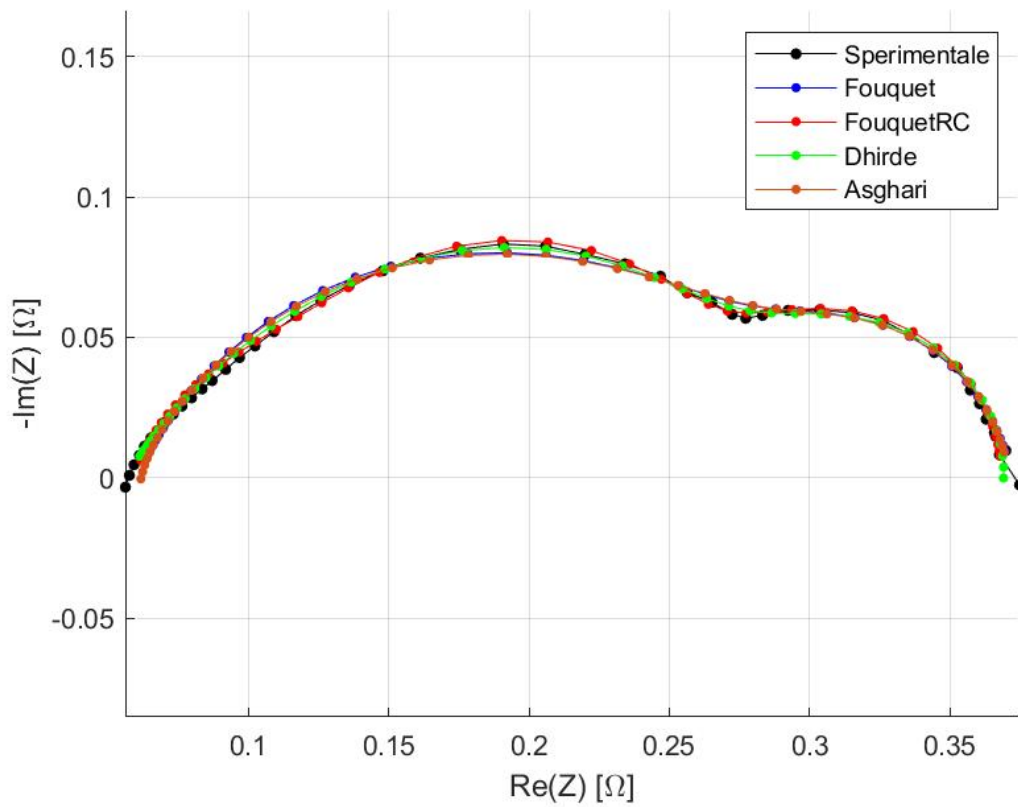


Figure 1: Fitting Lsqcurvefit

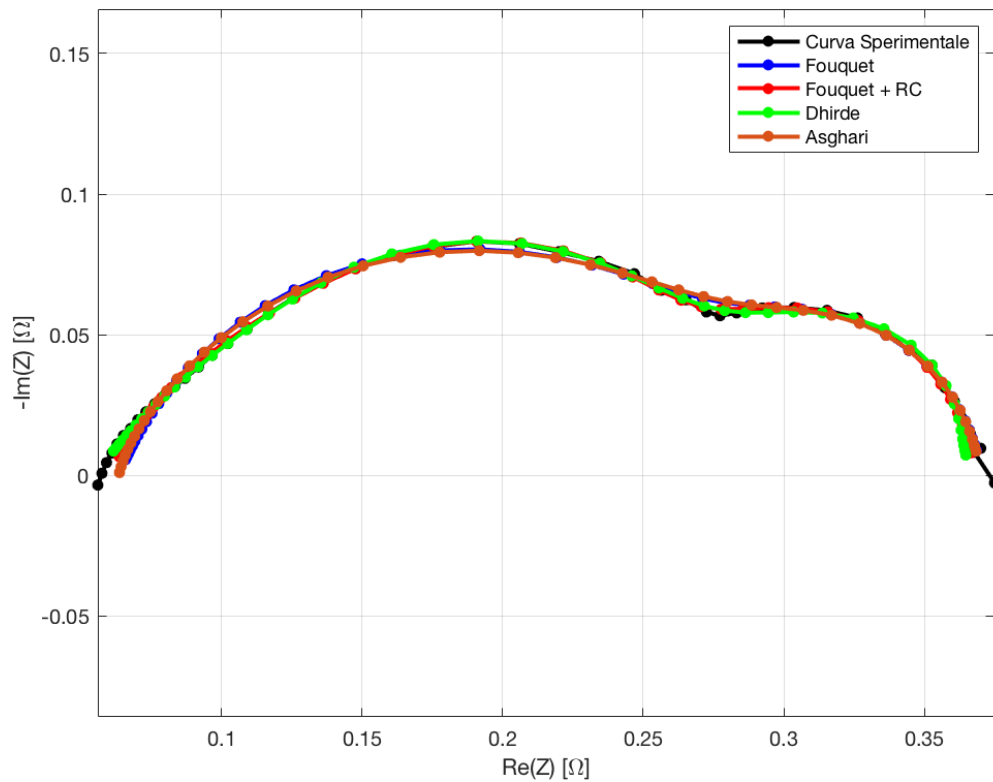


Figure 2: Fitting EA

170206_1250_dt46_nc_eis-15a_c01

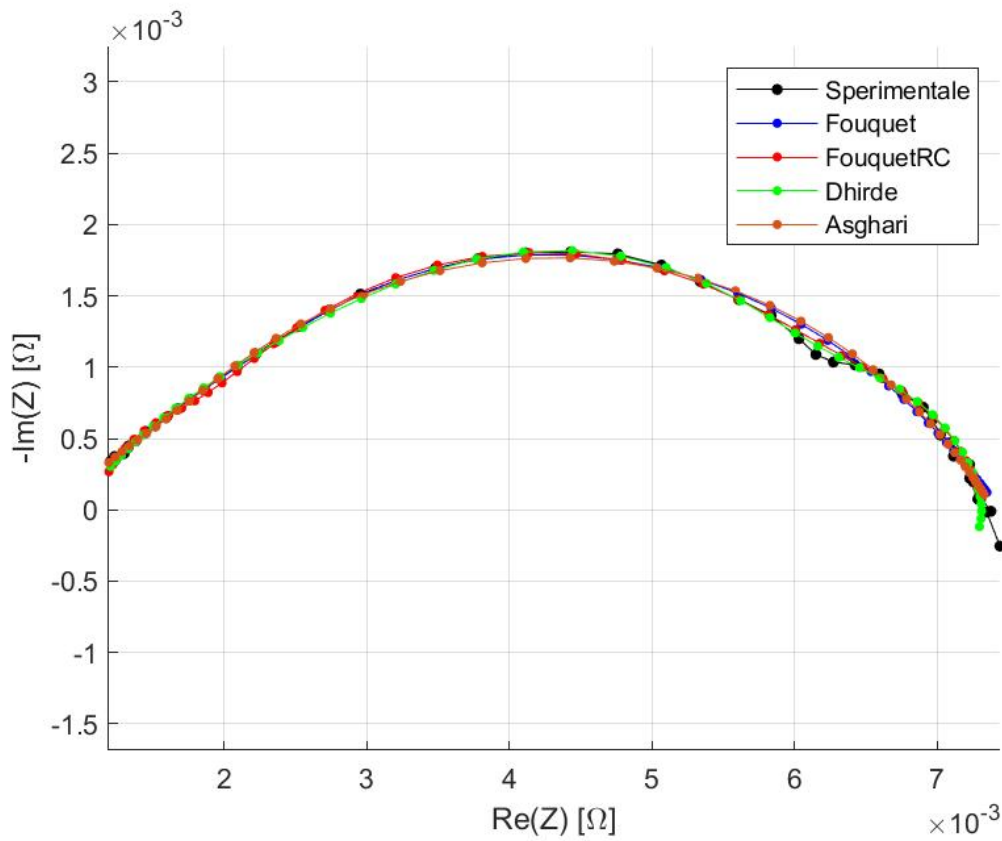


Figure 3: Fitting Lsqcurvefit

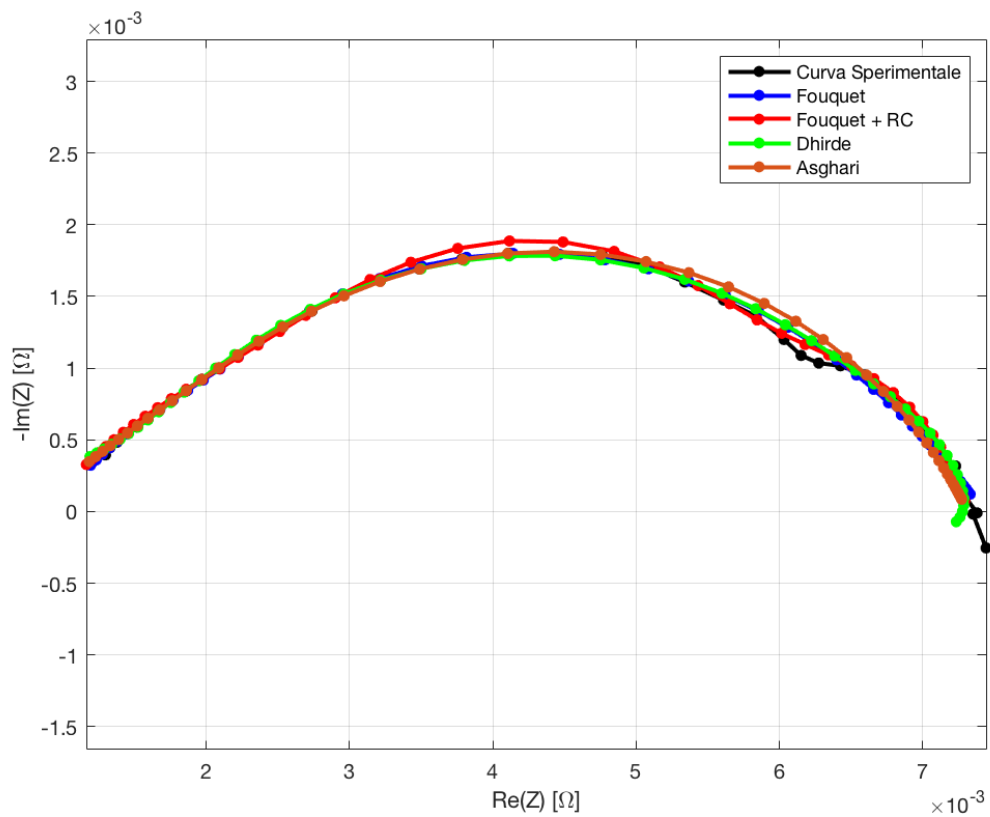


Figure 4: Fitting EA

170206_1250_dt46_nc_eis-15a_c02

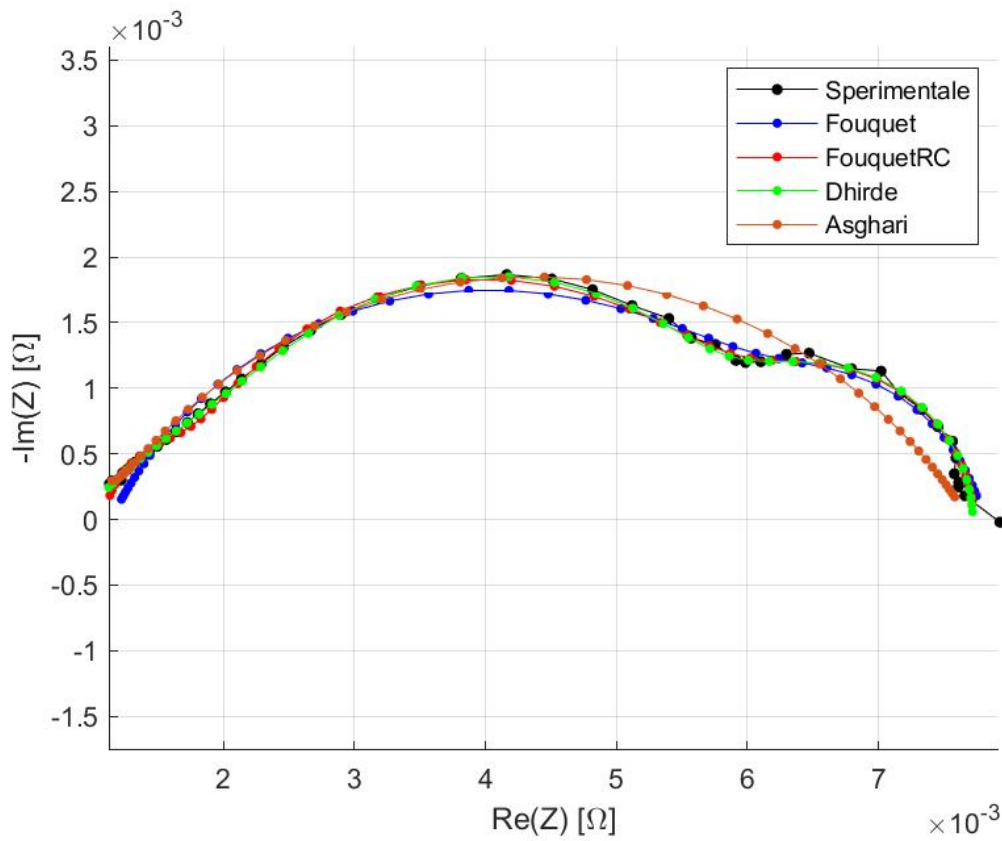


Figure 5: Fitting Lsqcurvefit

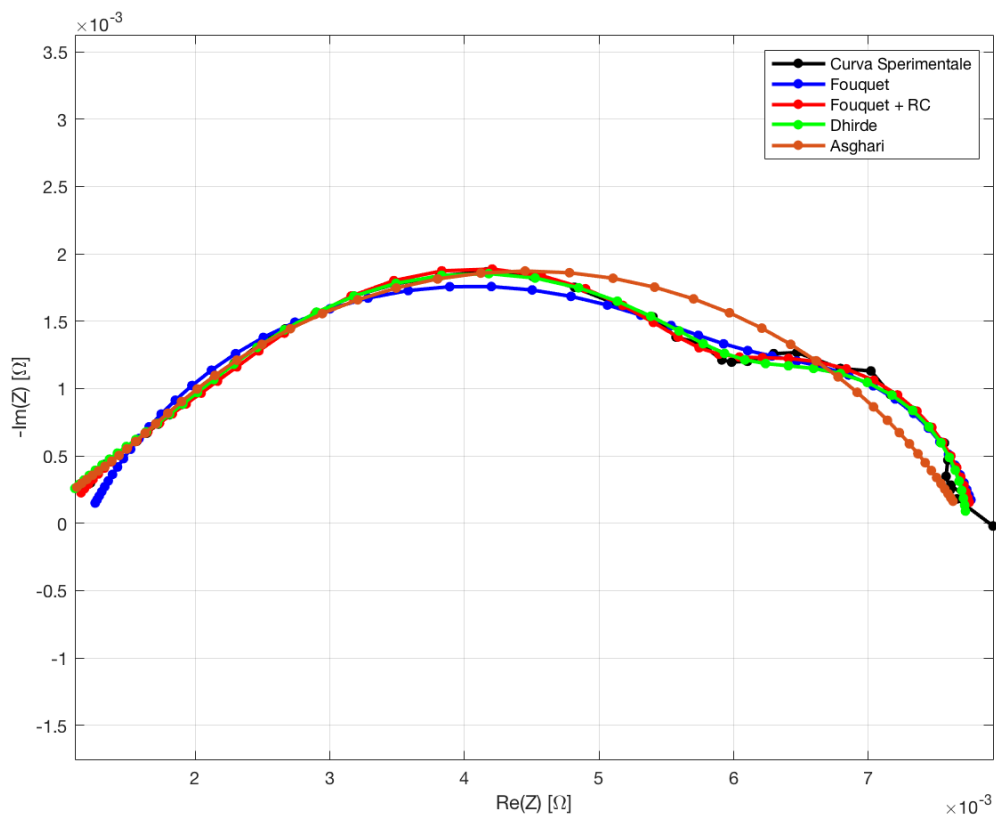


Figure 6: Fitting EA

170206_1250_dt46_nc_eis-15a_c03

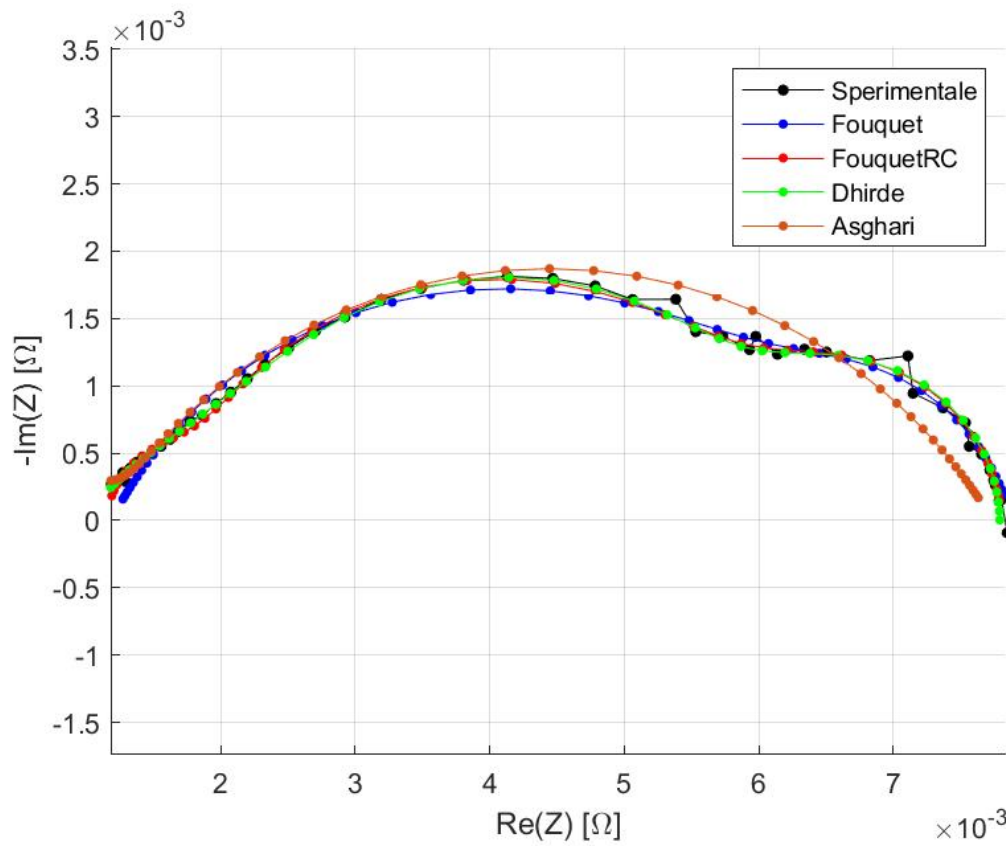


Figure 7: Fitting Lsqcurvefit

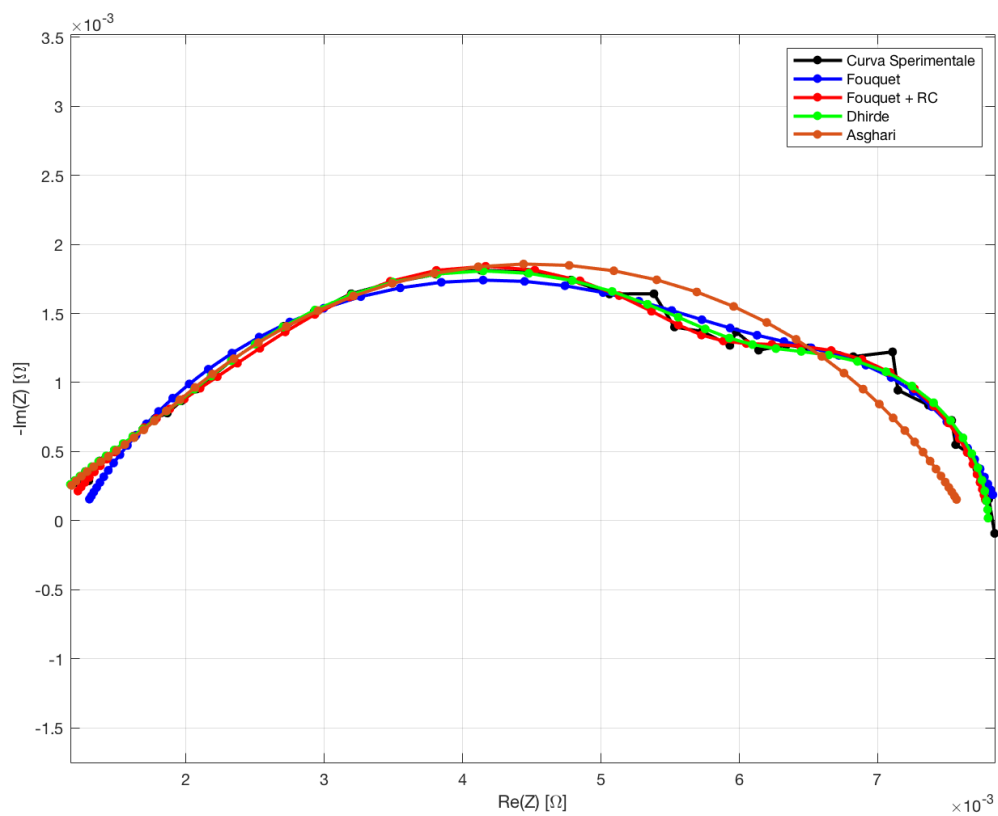


Figure 8: Fitting EA

170206_1250_dt46_nc_eis-15a_c04

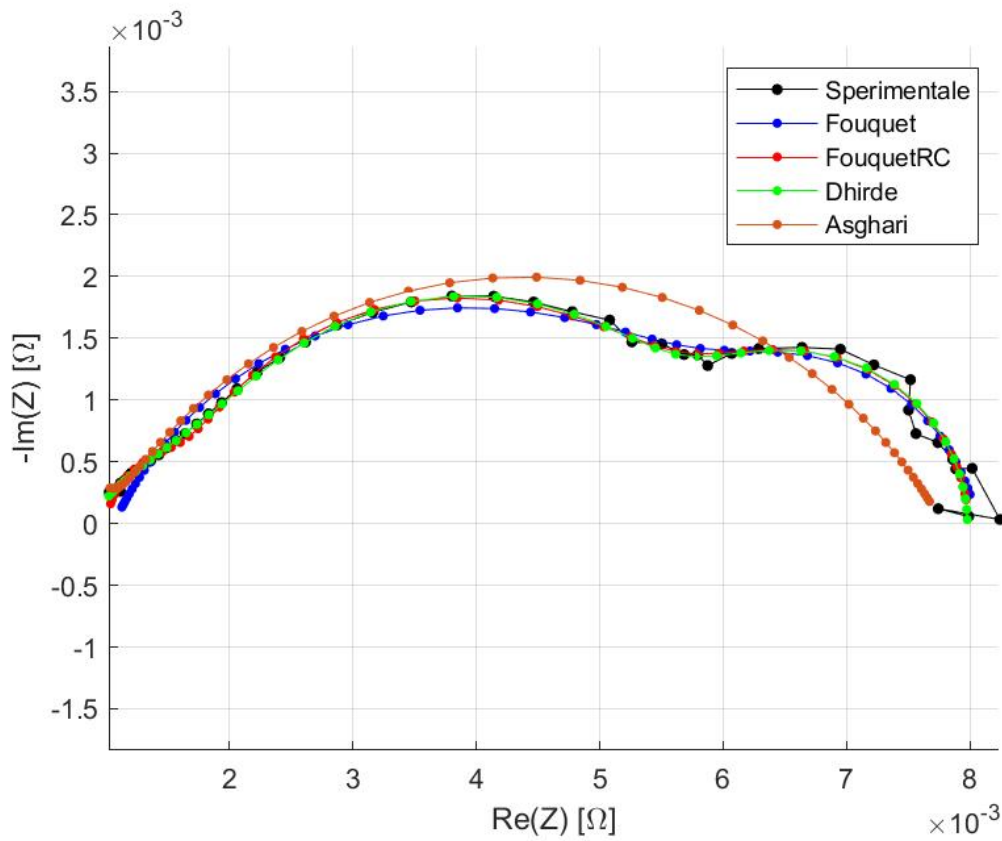


Figure 9: Fitting Lsqcurvefit

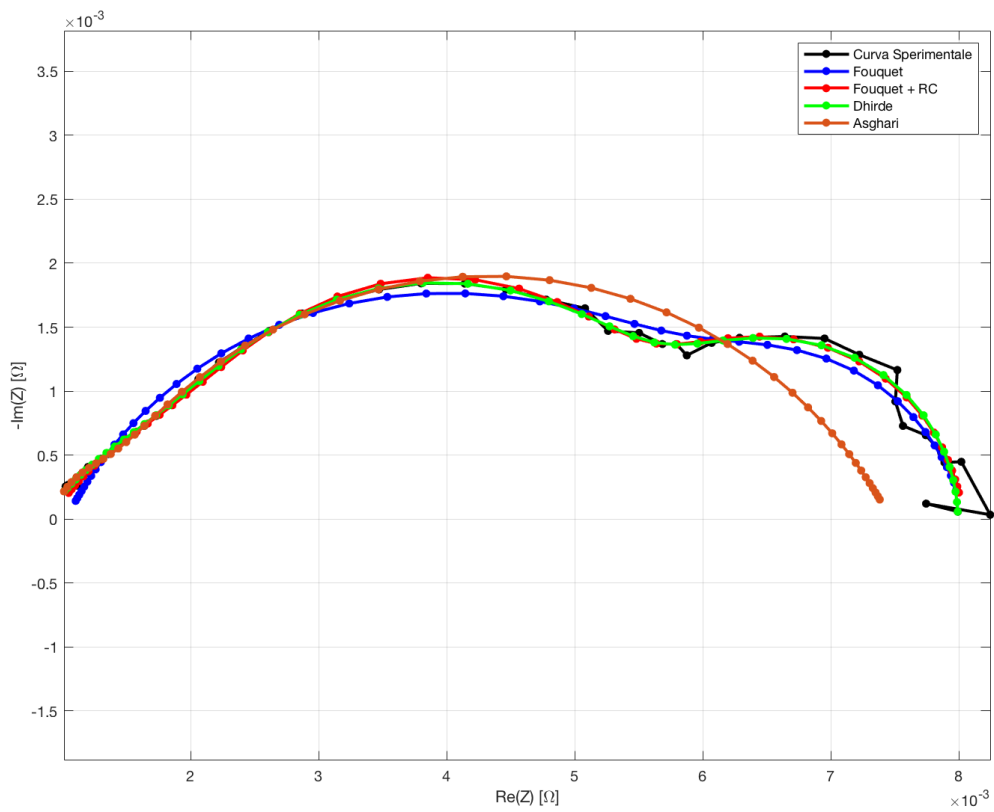


Figure 10: Fitting EA

170206_1250_dt46_nc_eis-15a_c05

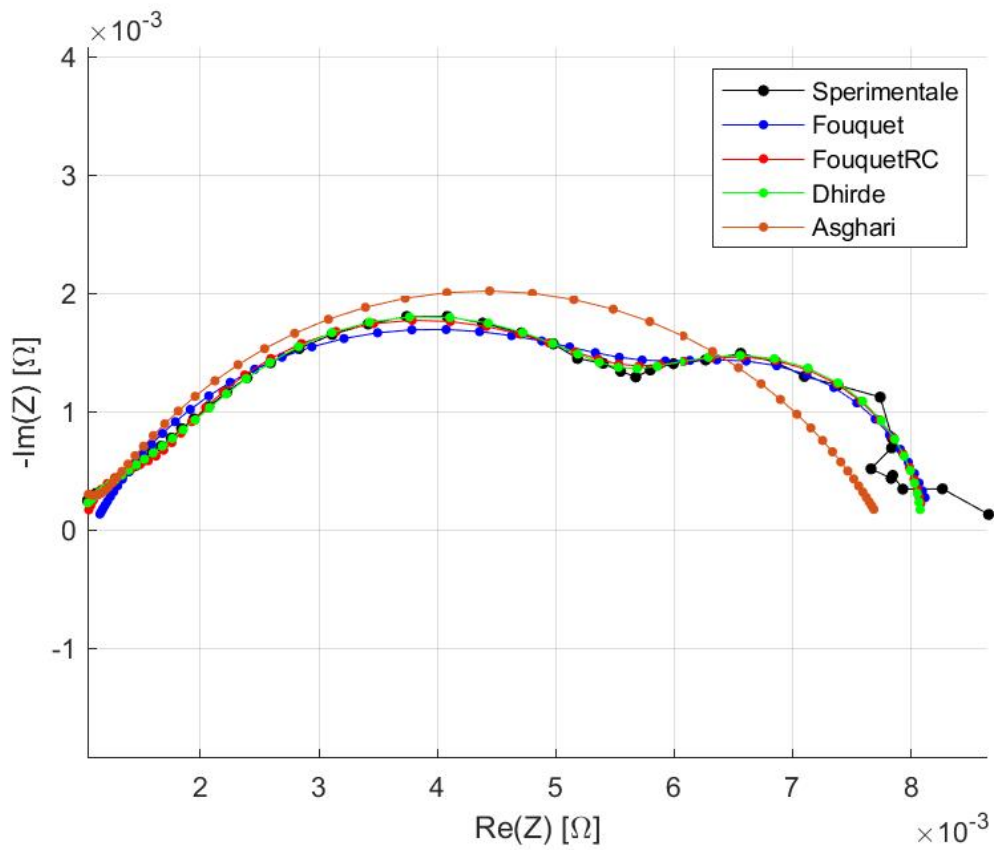


Figure 11: Fitting Lsqcurvefit

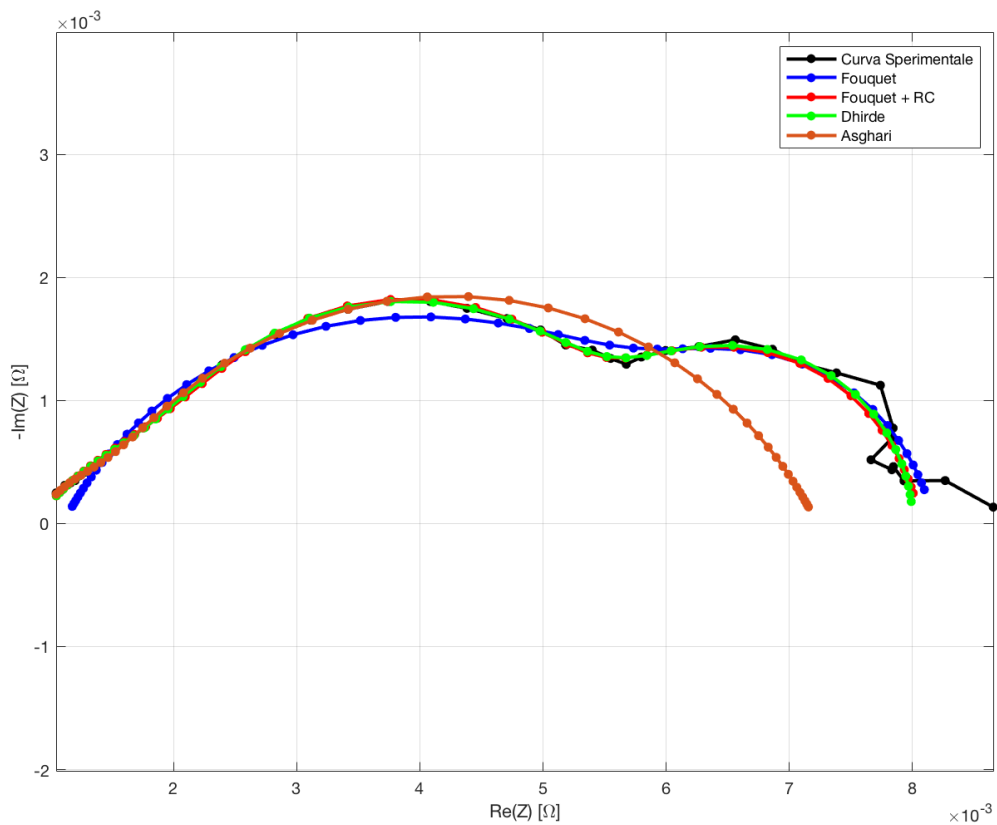


Figure 12: Fitting EA

170206_1330_dt46_nc_eis-25a_c00

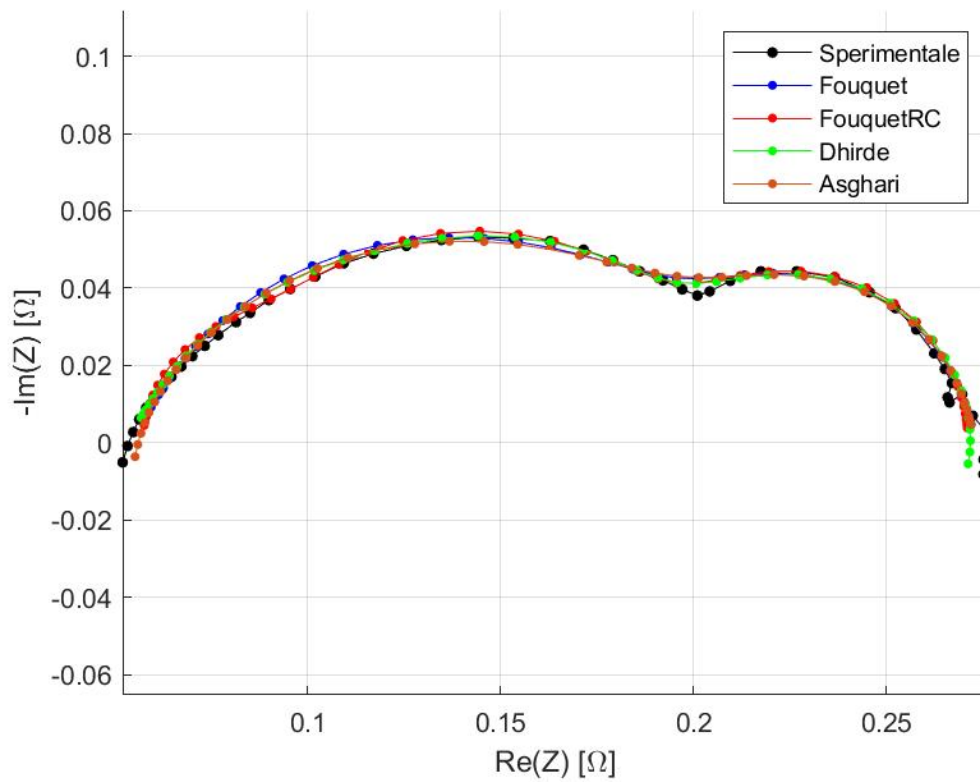


Figure 13: Fitting Lsqcurvefit

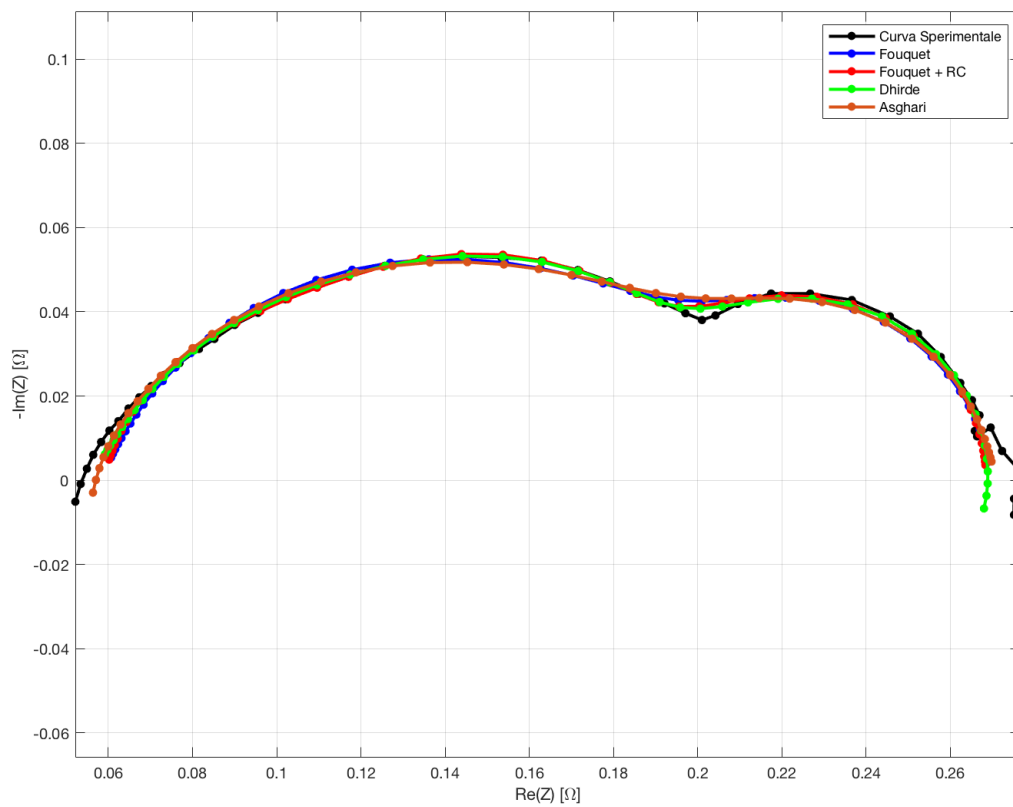


Figure 14: Fitting EA

170206_1410_dt46_nc_eis-40a_c00

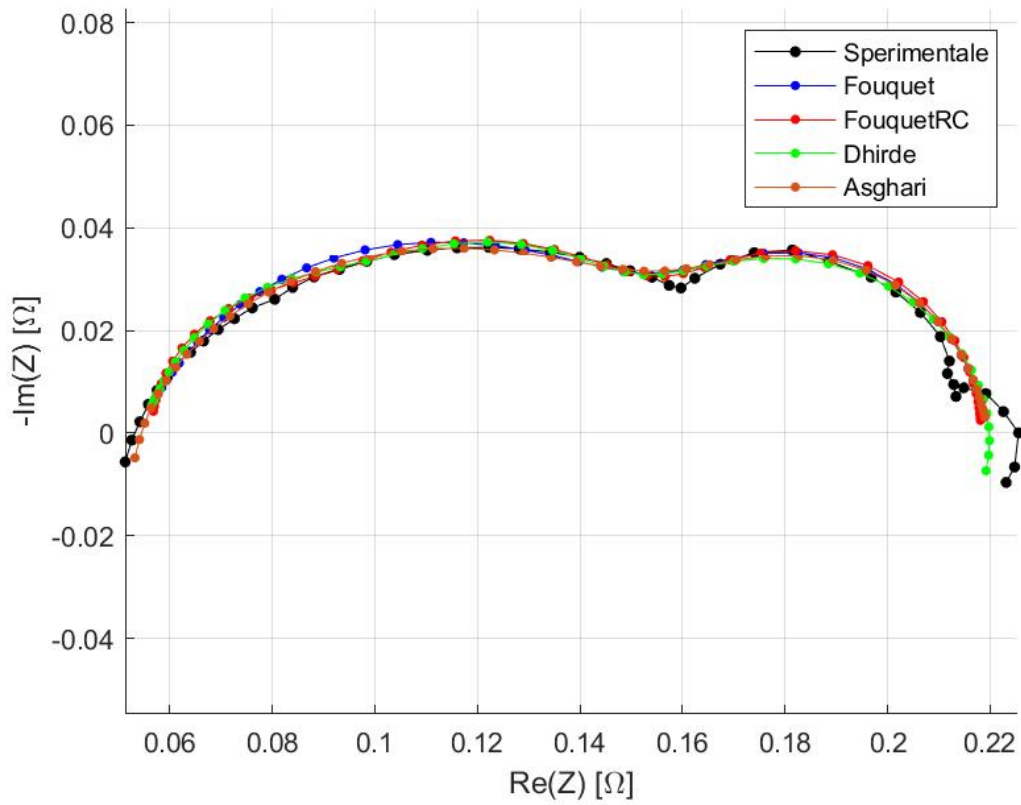


Figure 15: Fitting Lsqcurvefit

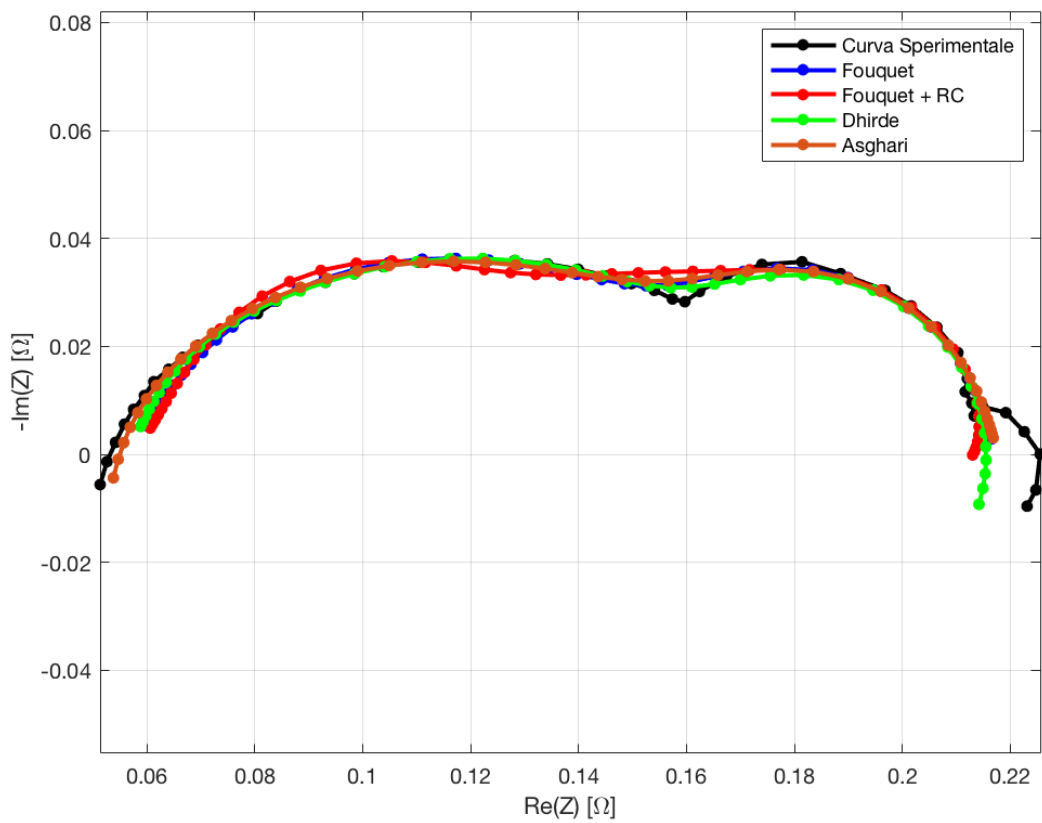


Figure 16: Fitting EA

170206_1410_dt46_nc_eis-40a_c02

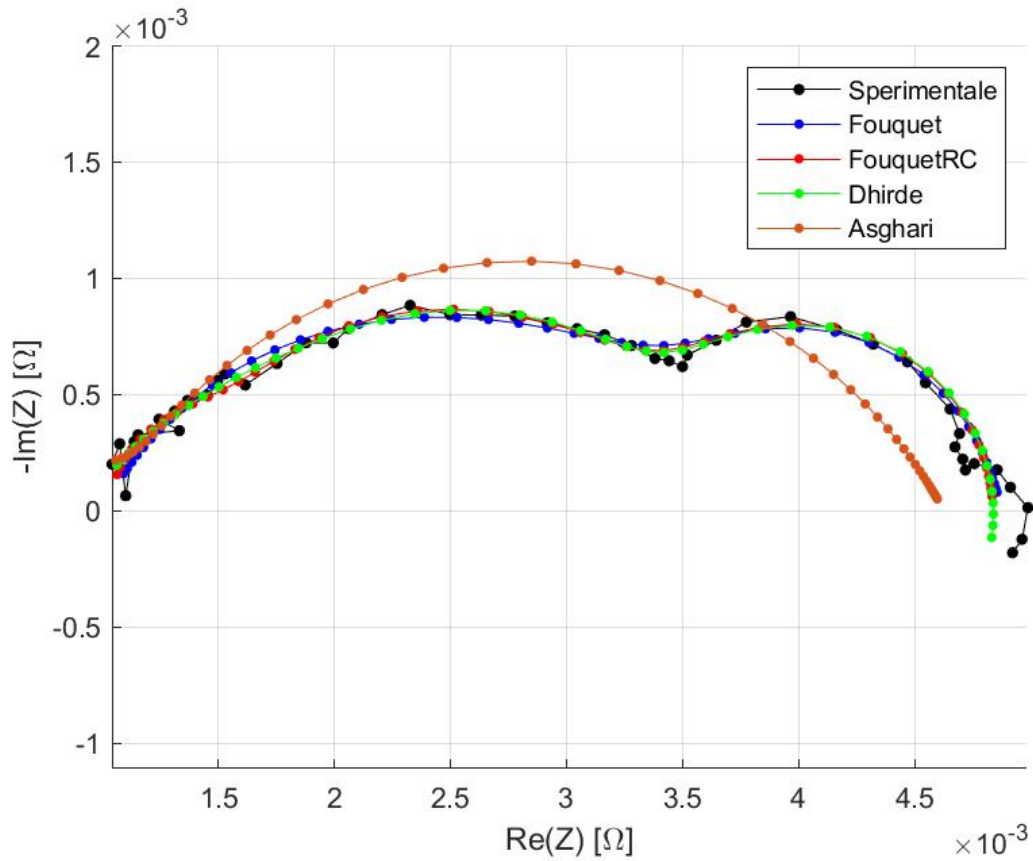


Figure 17: Fitting Lsqcurvefit

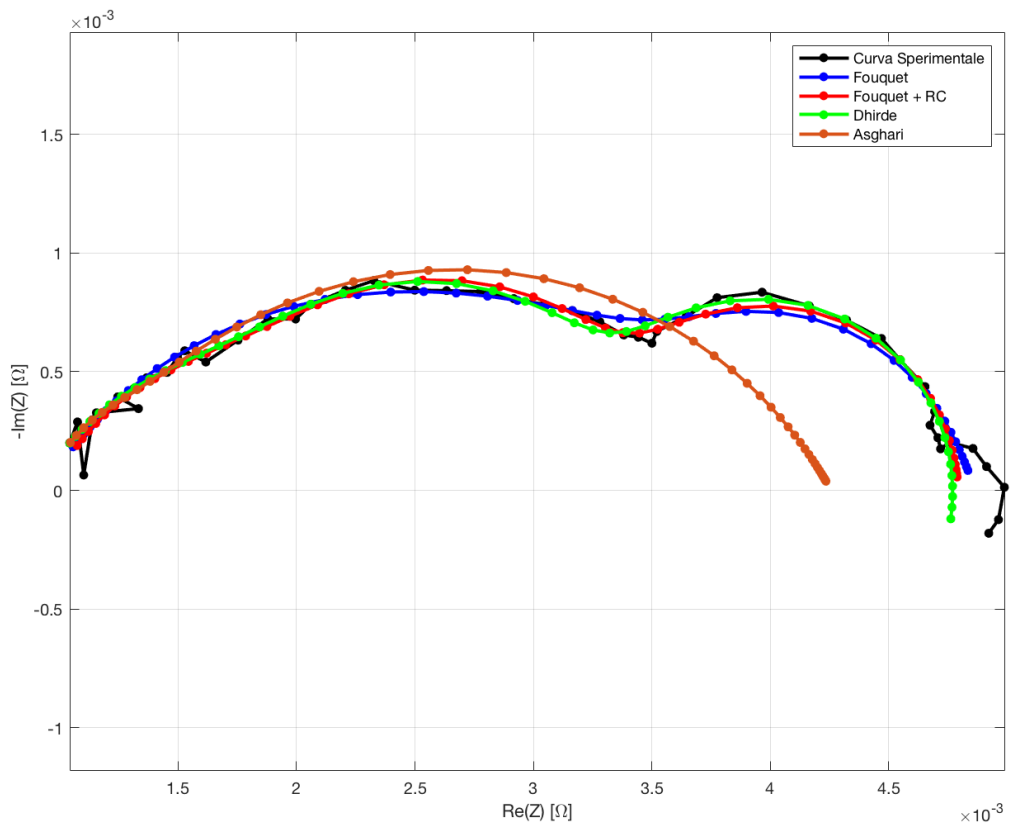


Figure 18: Fitting EA

170209_1512_dt46_fs-px_eis-25a_c00

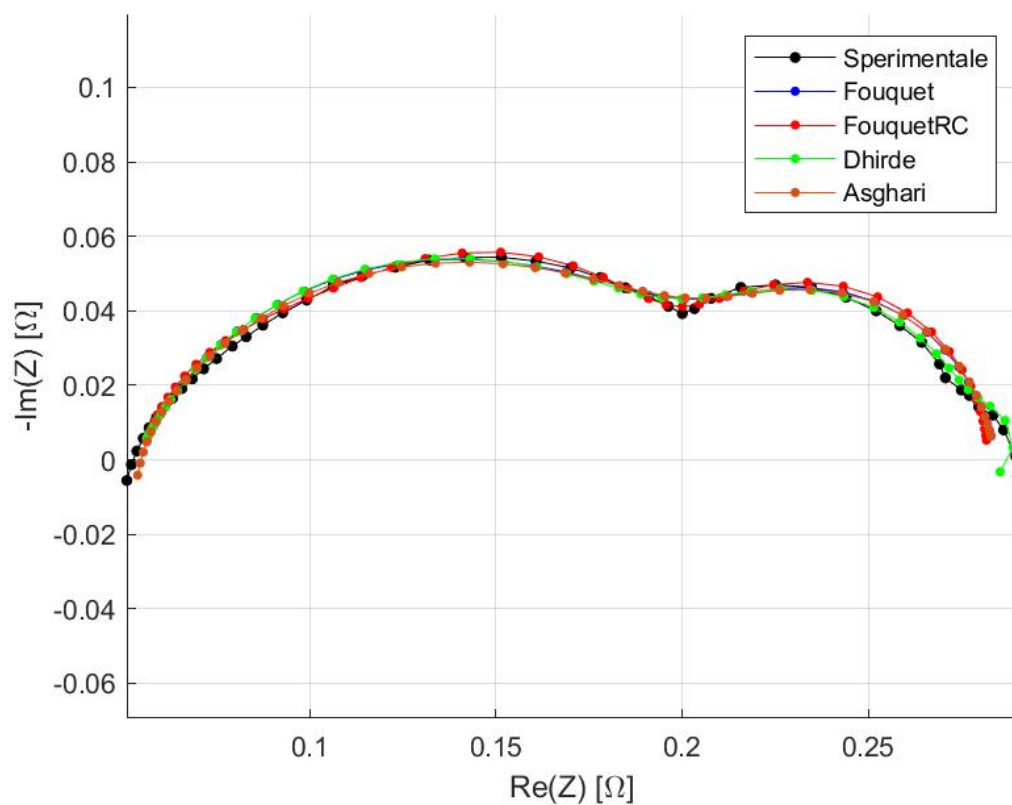


Figure 19: Fitting Lsqcurvefit

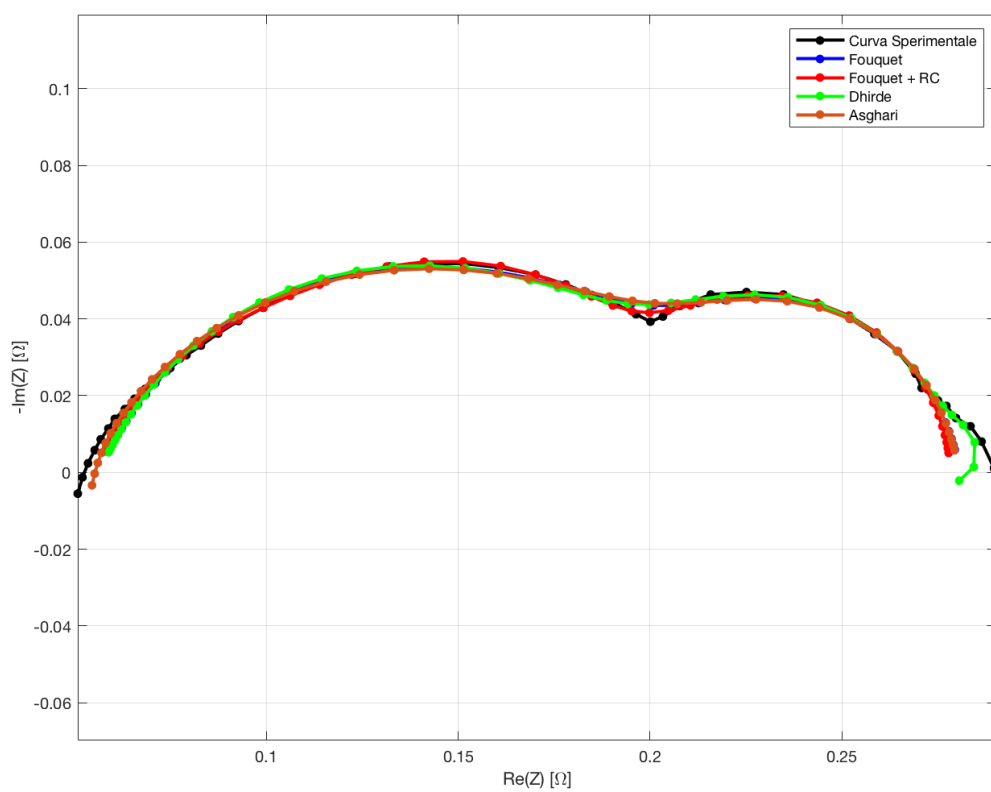


Figure 20: Fitting EA

170209_1512_dt46_fs-px_eis-25a_c02

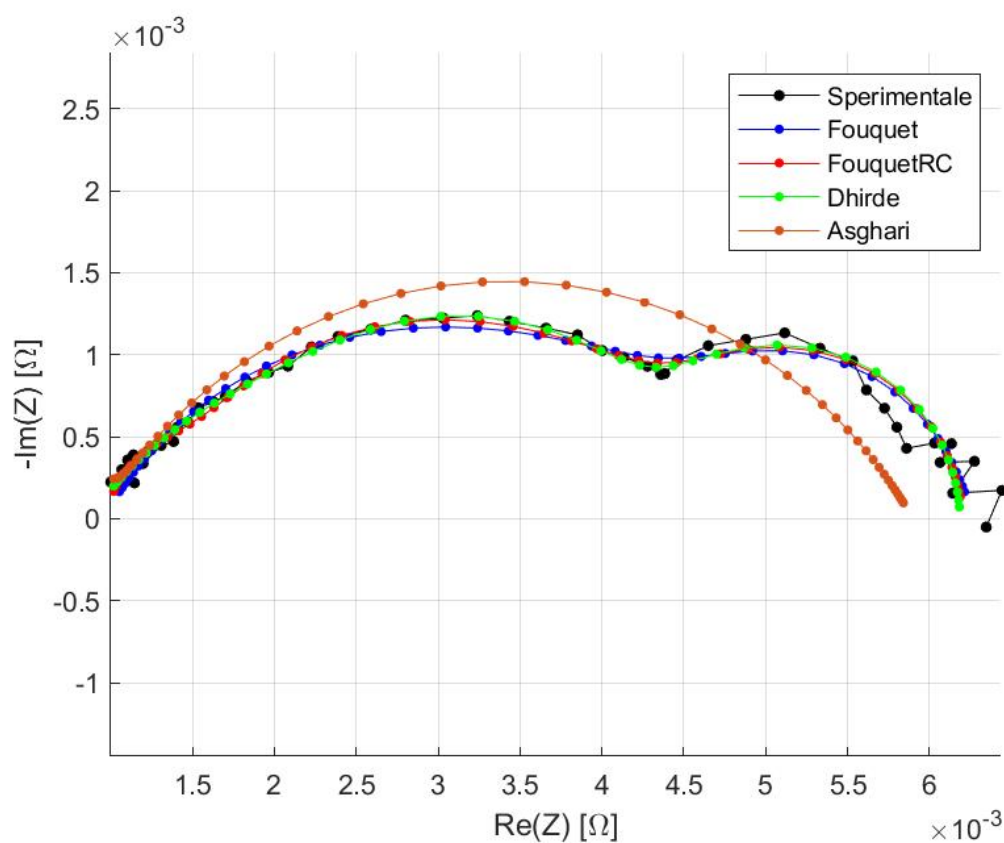


Figure 21: Fitting Lsqcurvefit

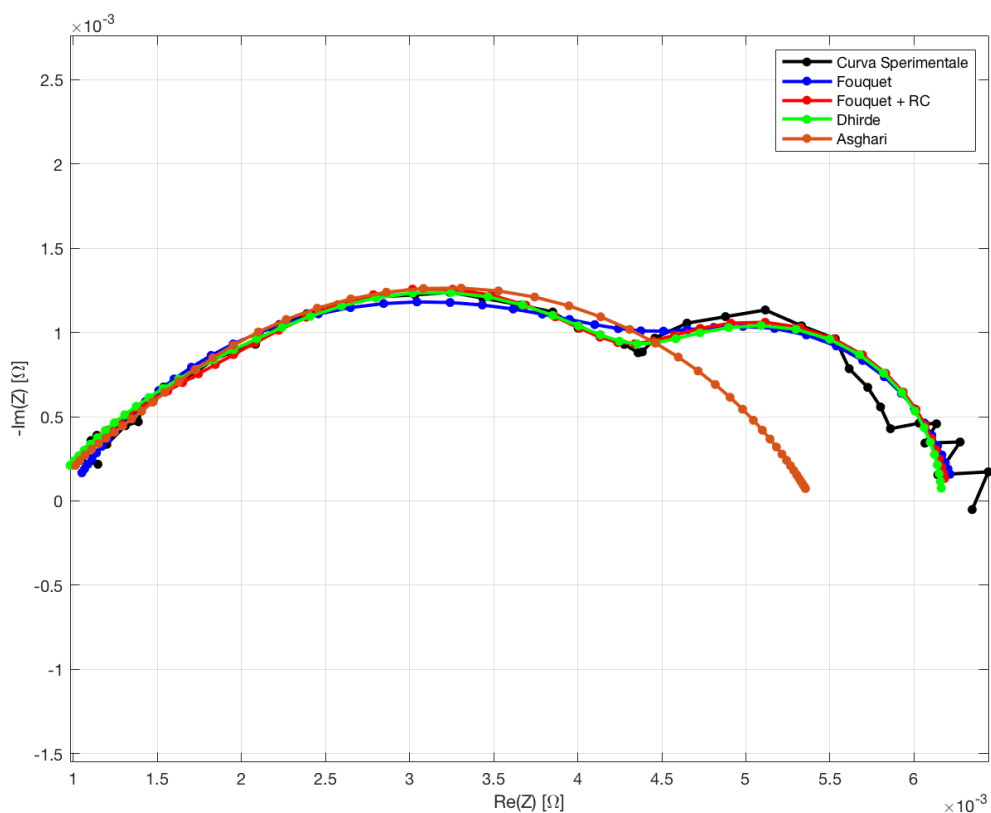


Figure 22: Fitting EA

170209_1545_dt46_fs-px_eis-40a_c00

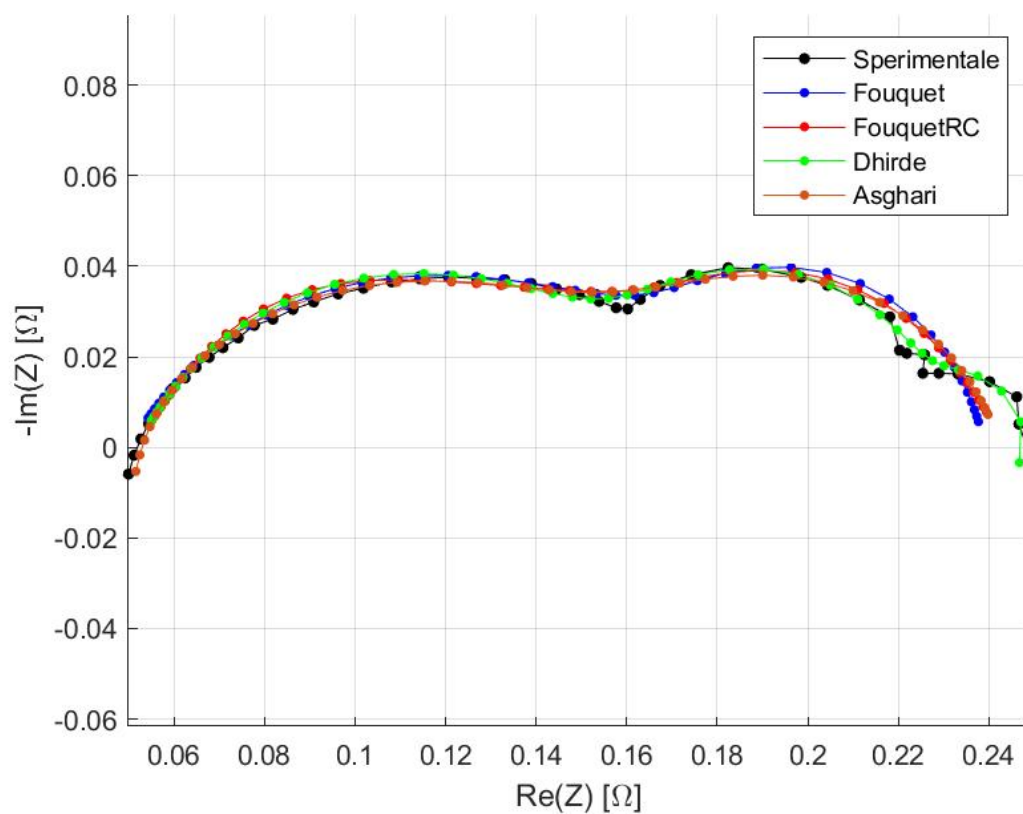


Figure 23: Fitting Lsqcurvefit

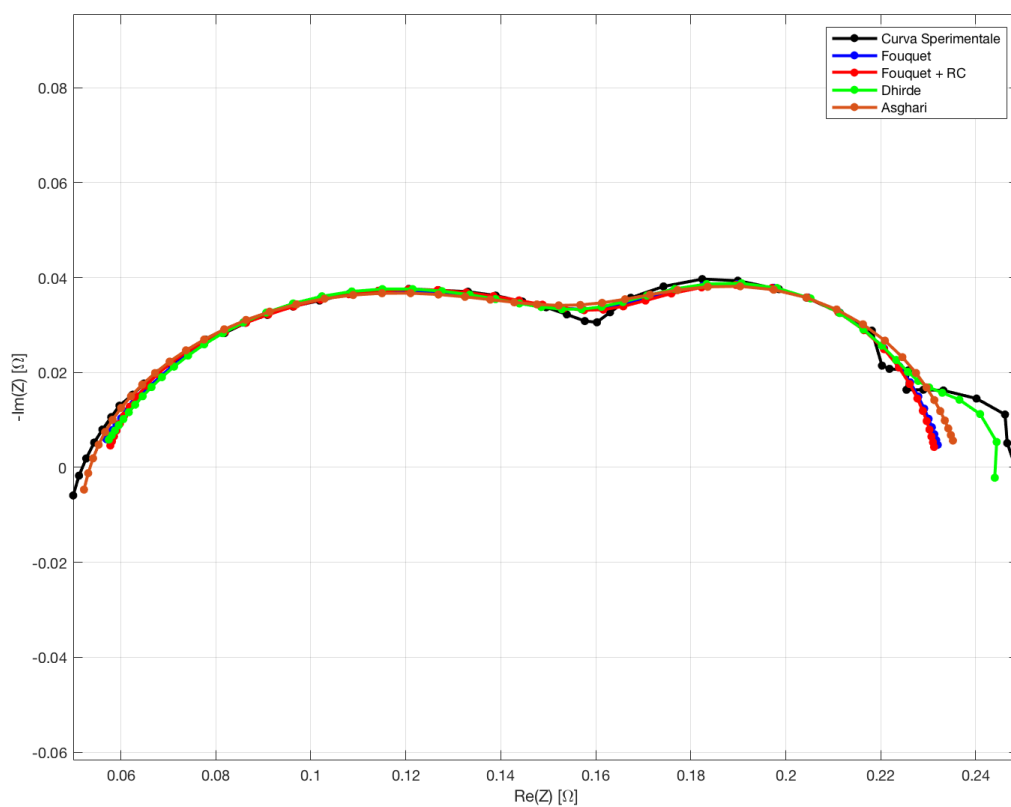


Figure 24: Fitting EA

170405_1320_dt46_nc_eis-40a_c00

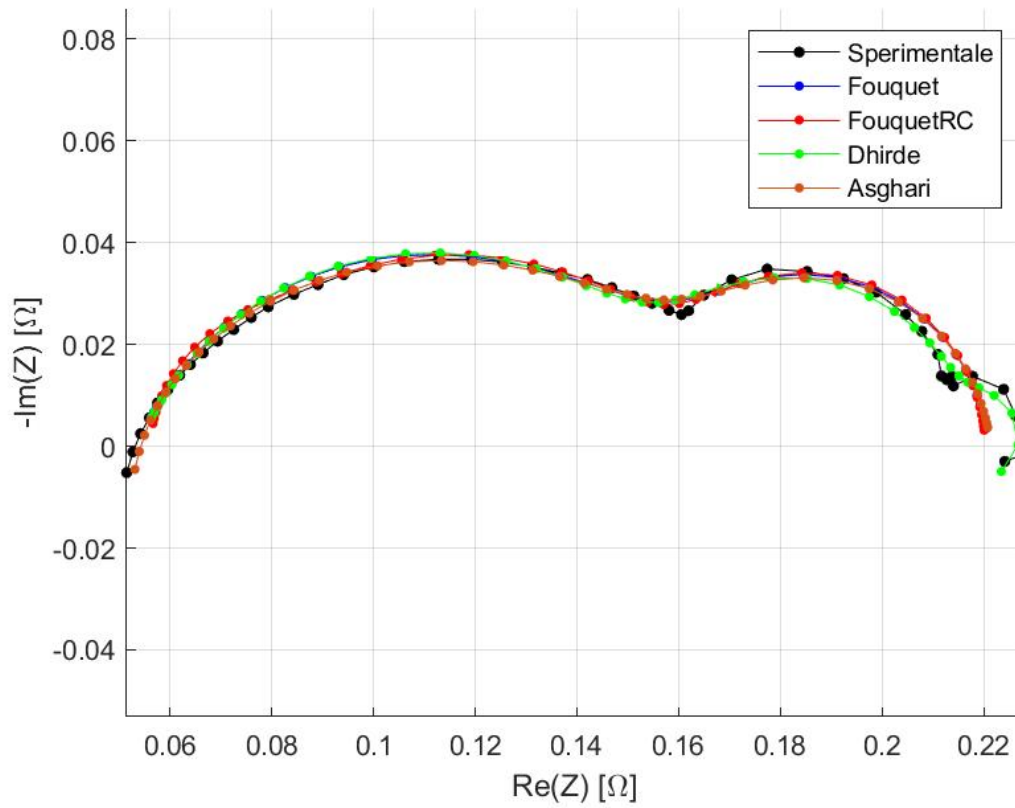


Figure 25: Fitting Lsqcurvefit

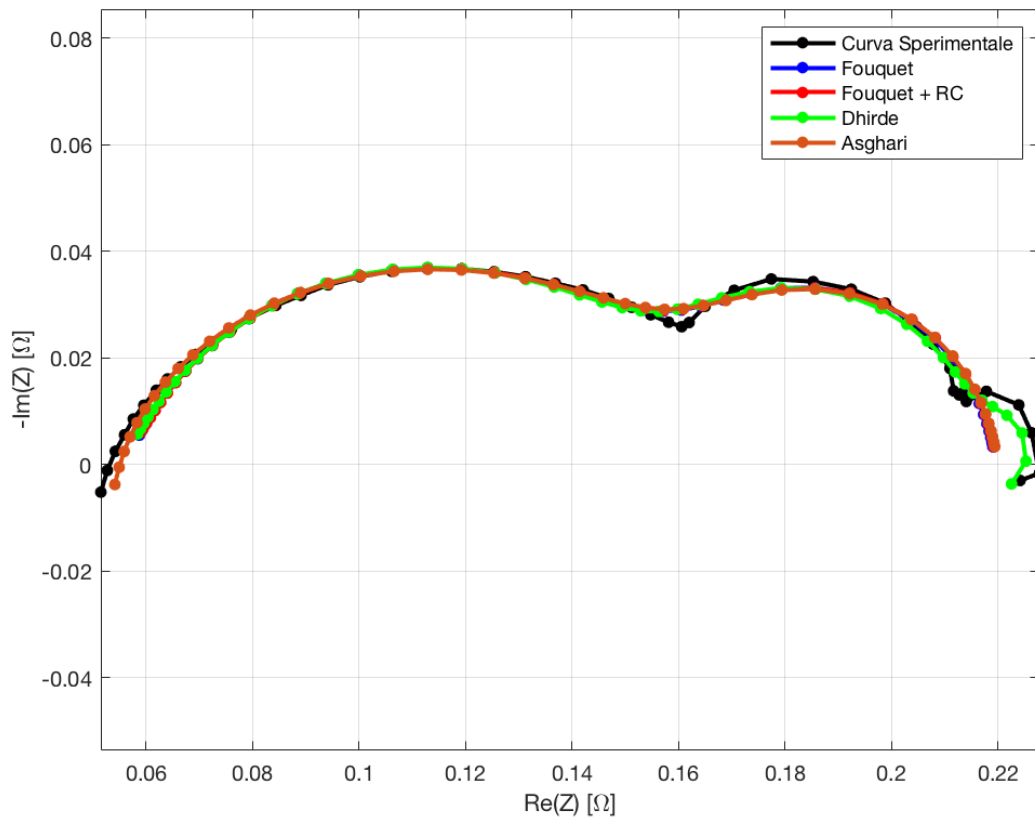


Figure 26: Fitting EA

170405_1320_dt46_nc_eis-40a_c02

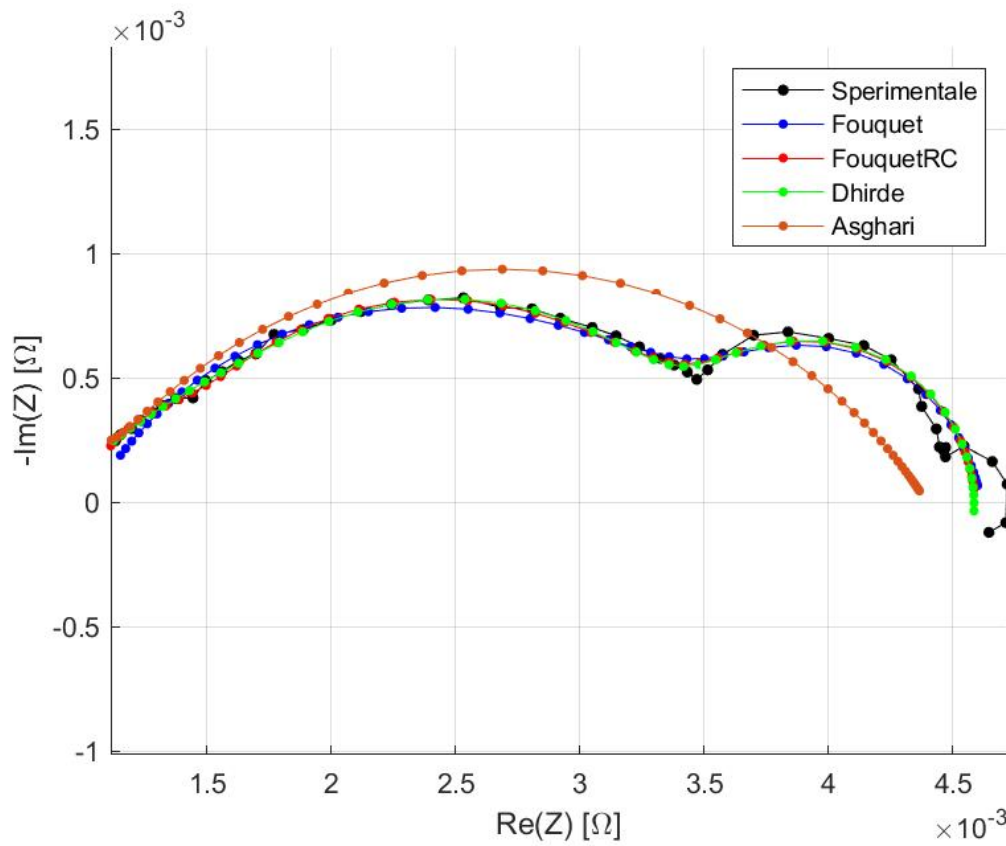


Figure 27: Fitting Lsqcurvefit

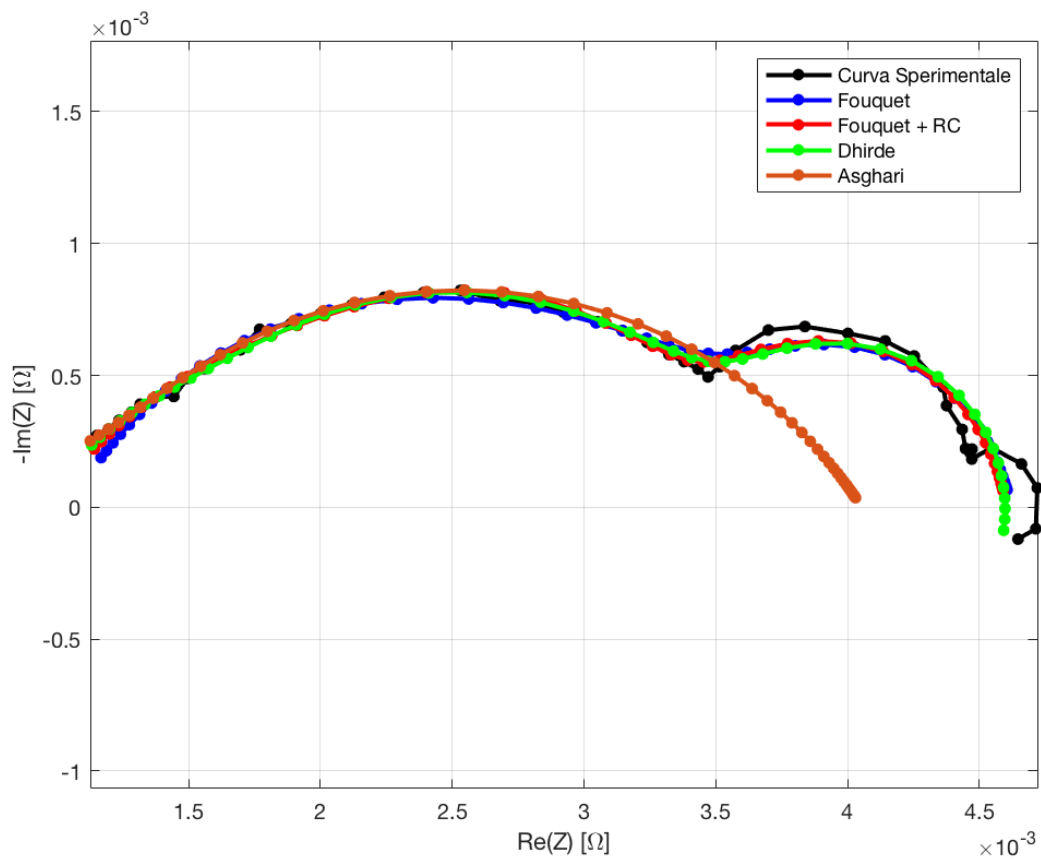


Figure 28: Fitting EA

170405_1425_dt46_nc_eis25a_c00

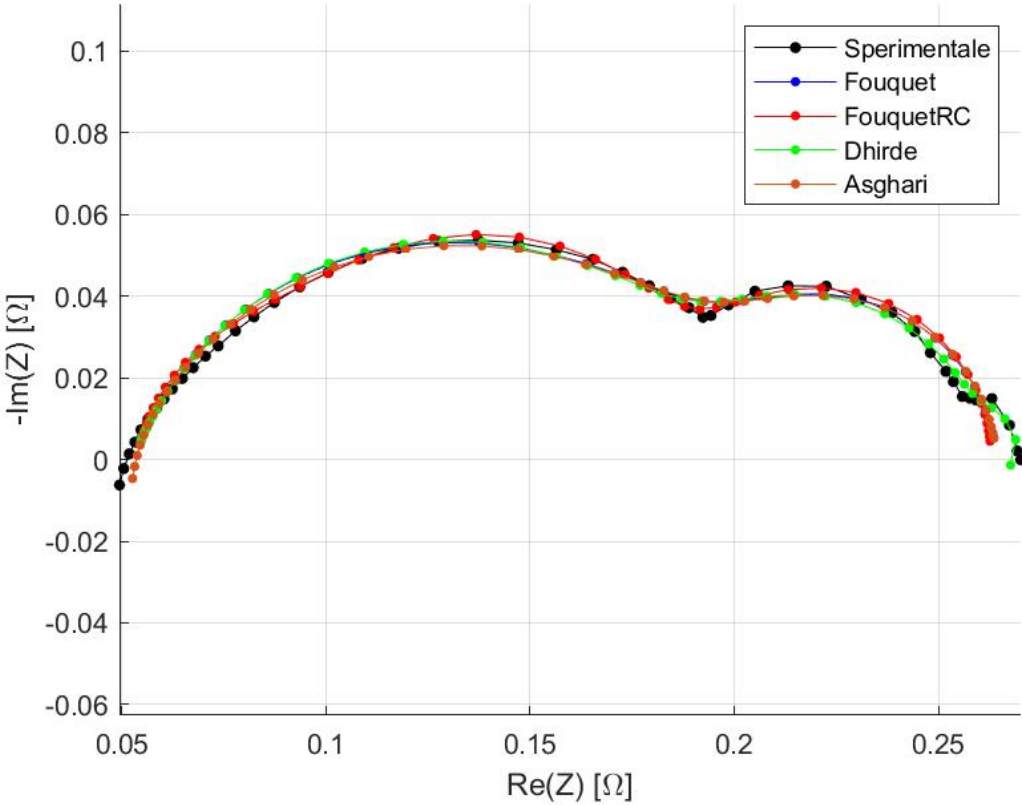


Figure 29: Fitting Lsqcurvefit

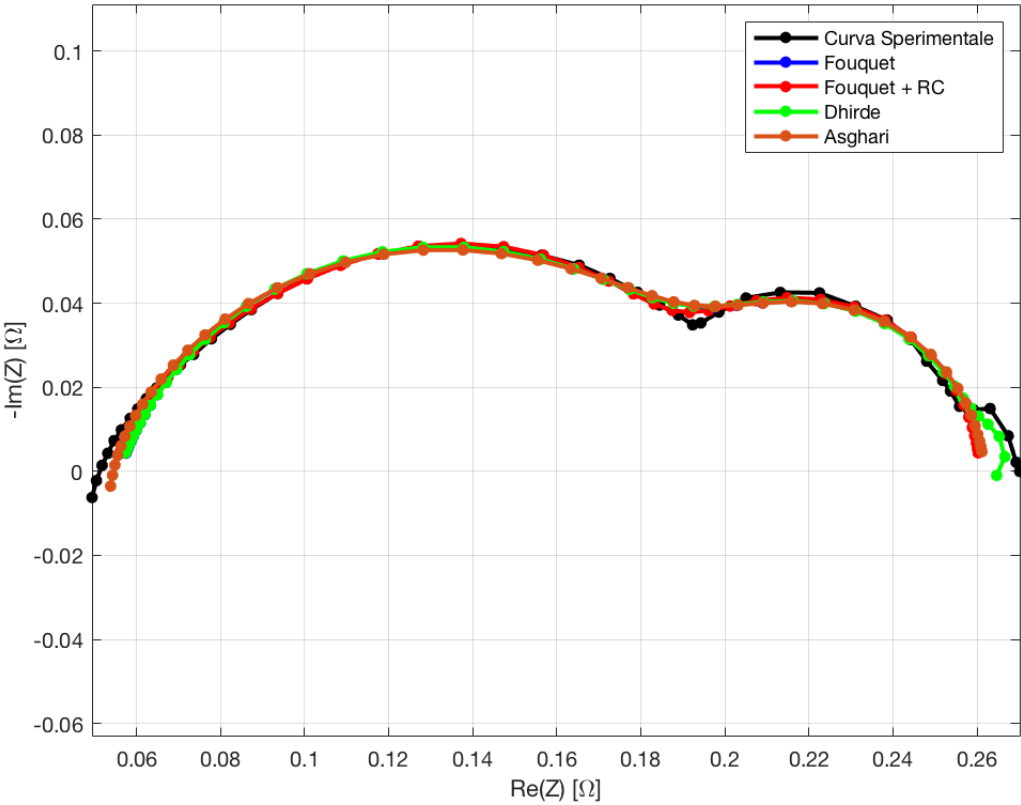


Figure 30: Fitting EA

170405_1510_dt46_nc_eis15a_c00

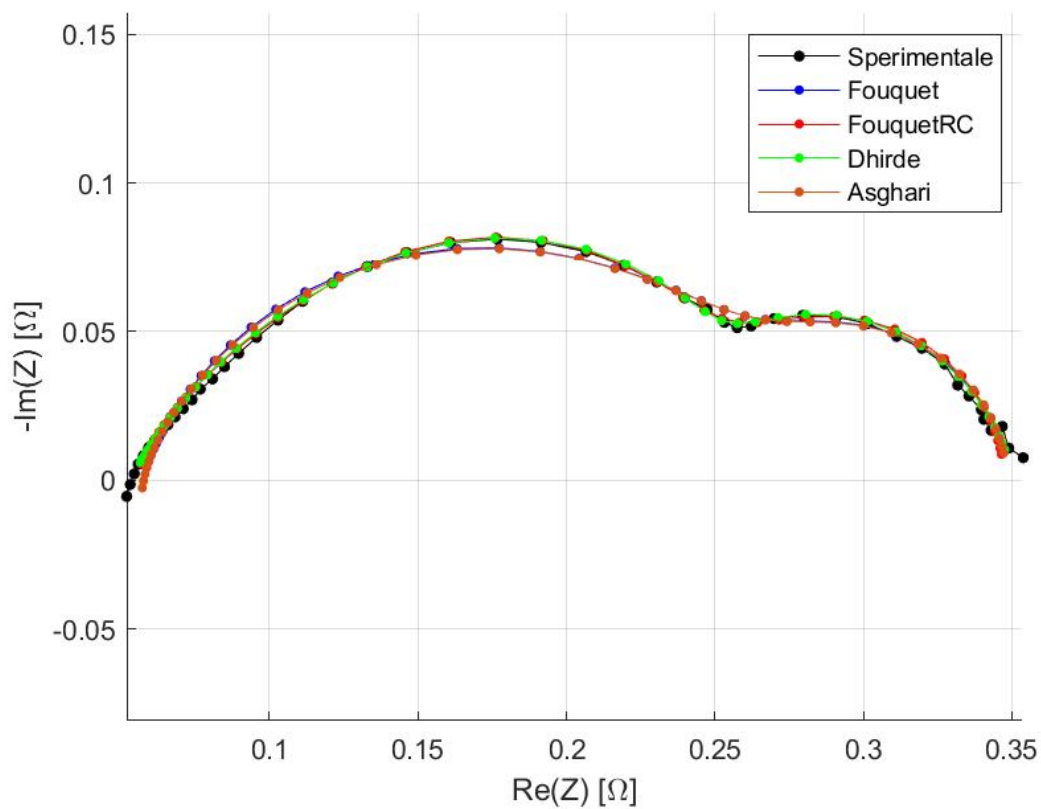


Figure 31: Fitting Lsqcurvefit

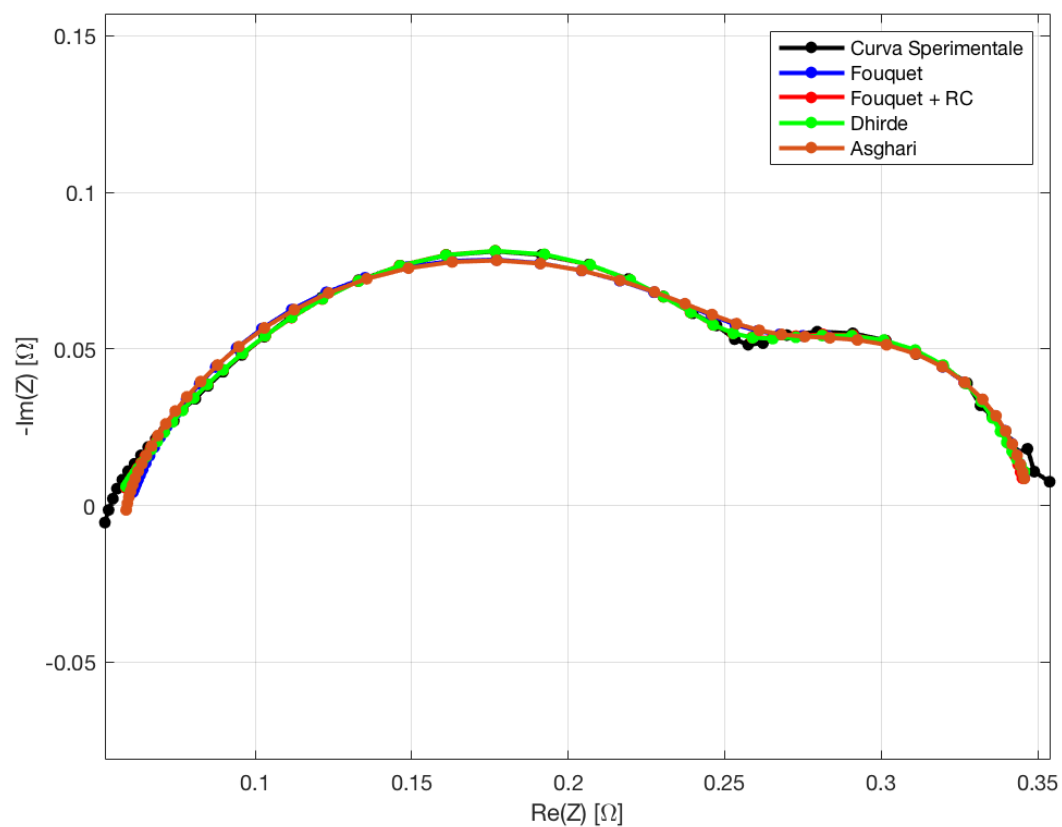


Figure 32: Fitting EA

170405_1510_dt46_nc_eis15a_c05

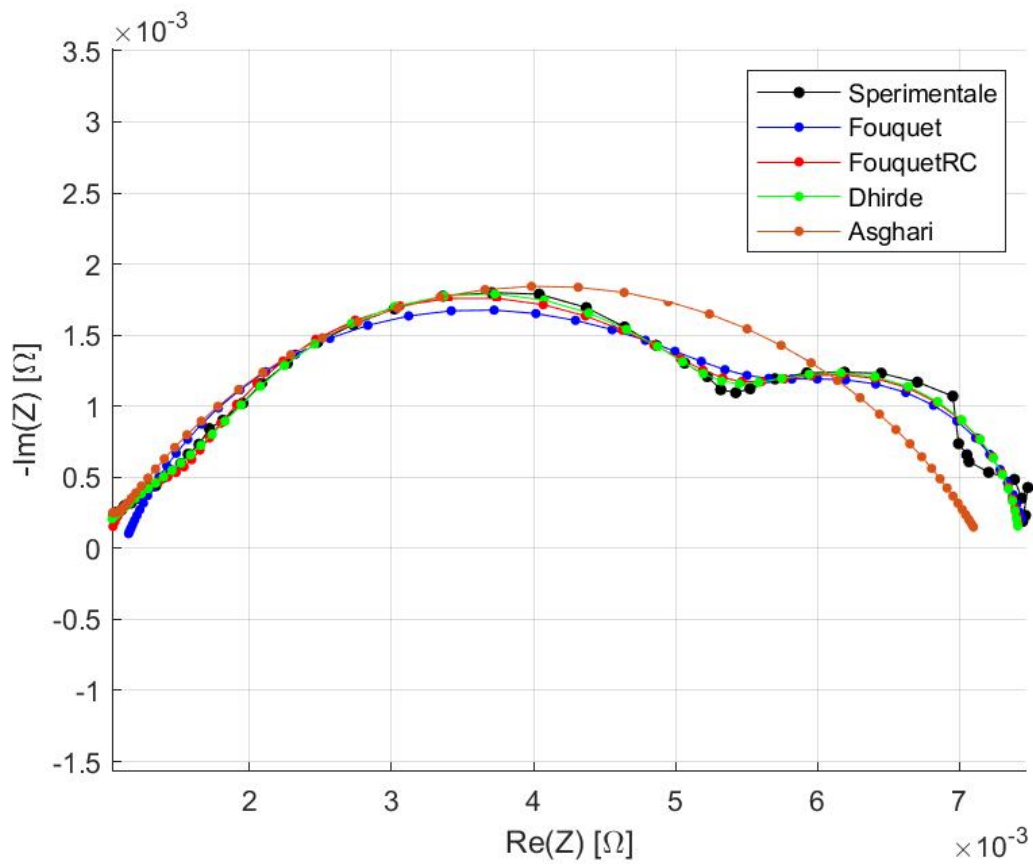


Figure 33: Fitting Lsqcurvefit

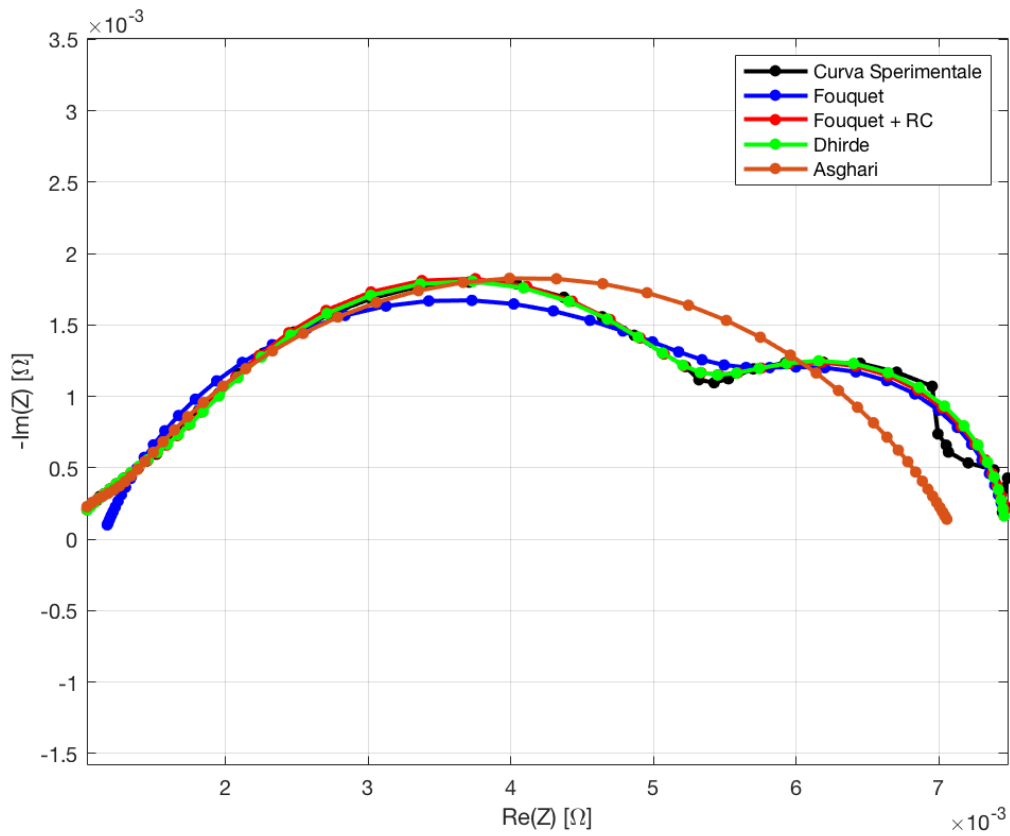


Figure 34: Fitting EA

170410_0945_dt46_fs-p1_eis-40a_c00

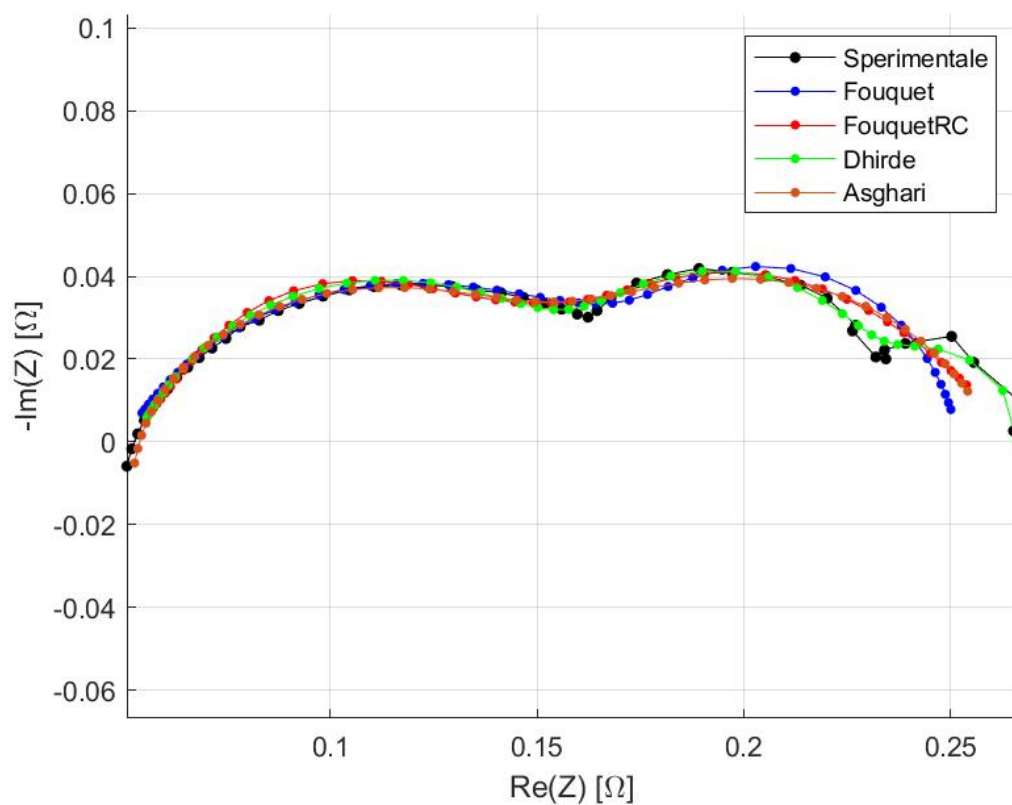


Figure 35: Fitting Lsqcurvefit

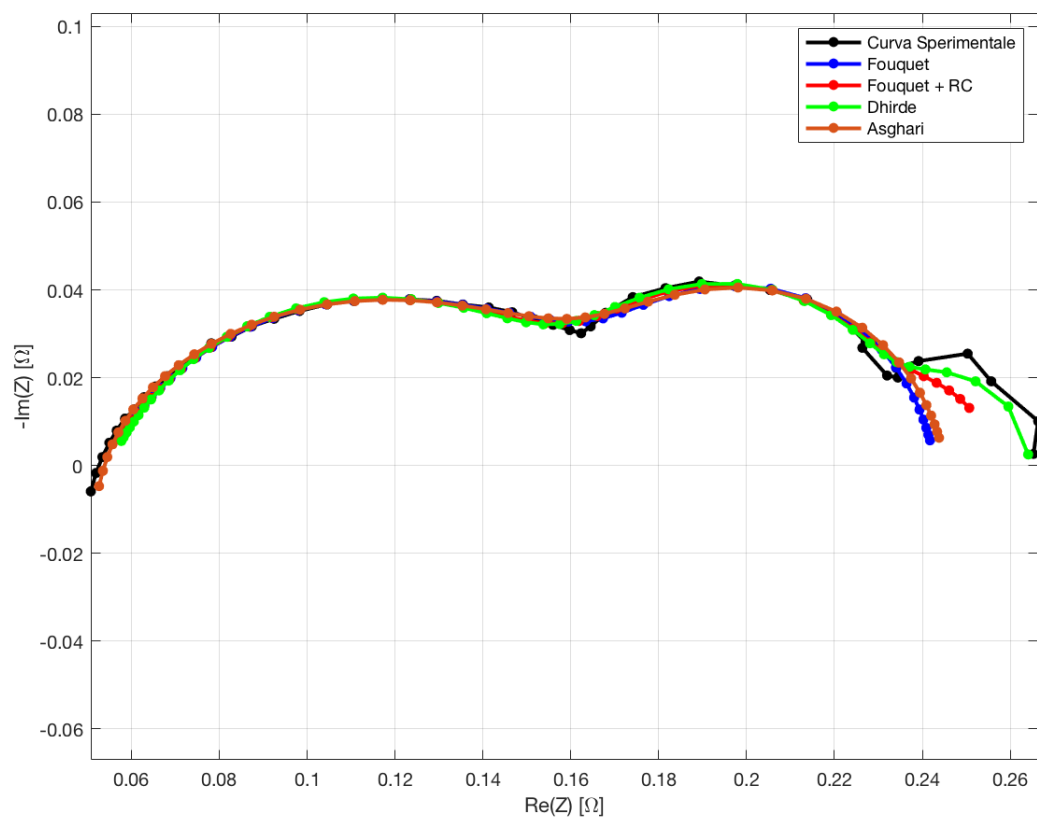


Figure 36: Fitting EA

170410_1120_dt46_fs-p5_eis-25a_c00

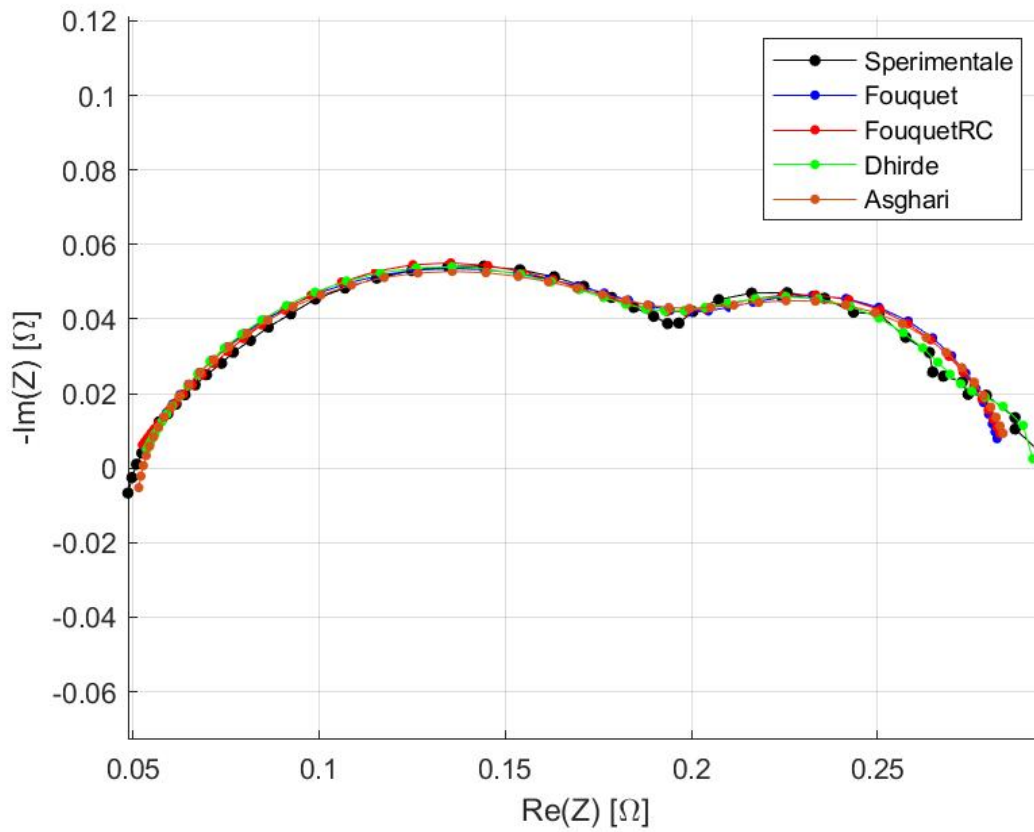


Figure 37: Fitting Lsqcurvefit

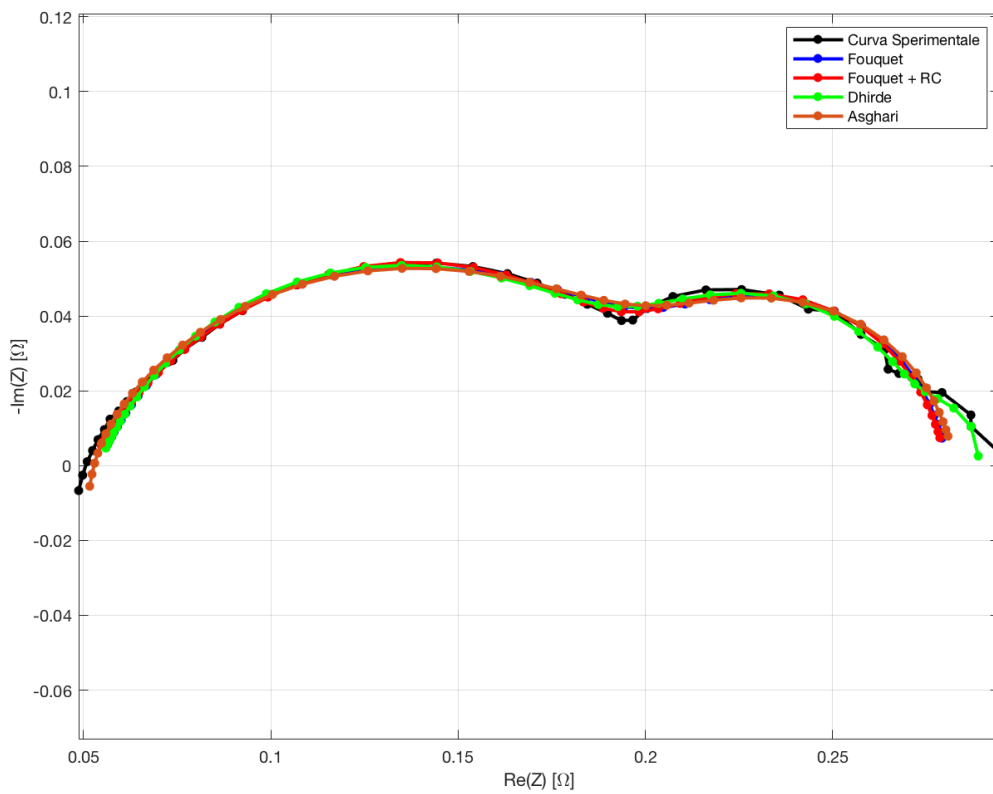


Figure 38: Fitting EA

170410_1300_dt46_fs-p0_eis-40a_c00

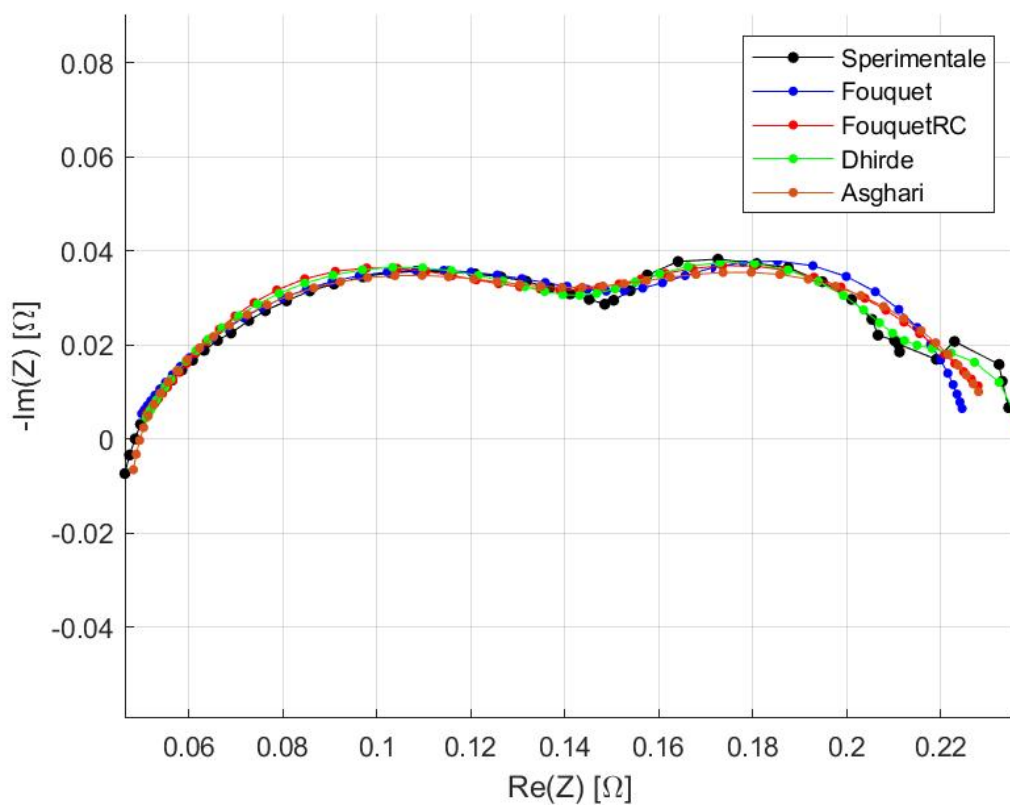


Figure 39: Fitting Lsqcurvefit

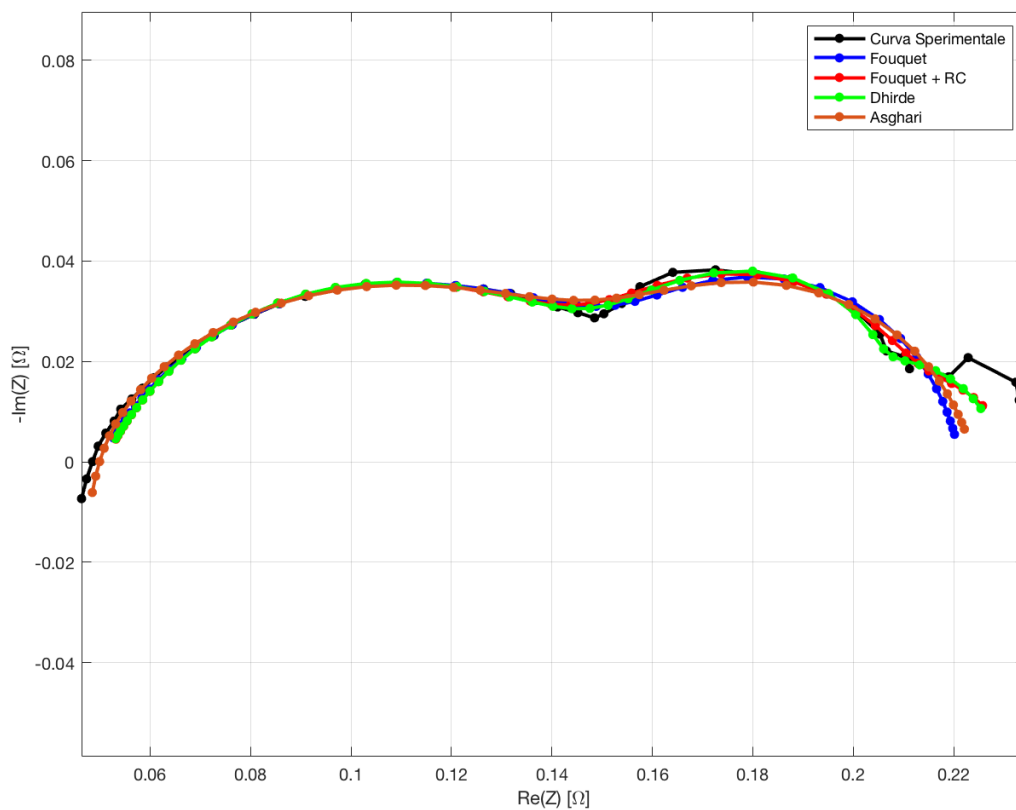


Figure 40: Fitting EA