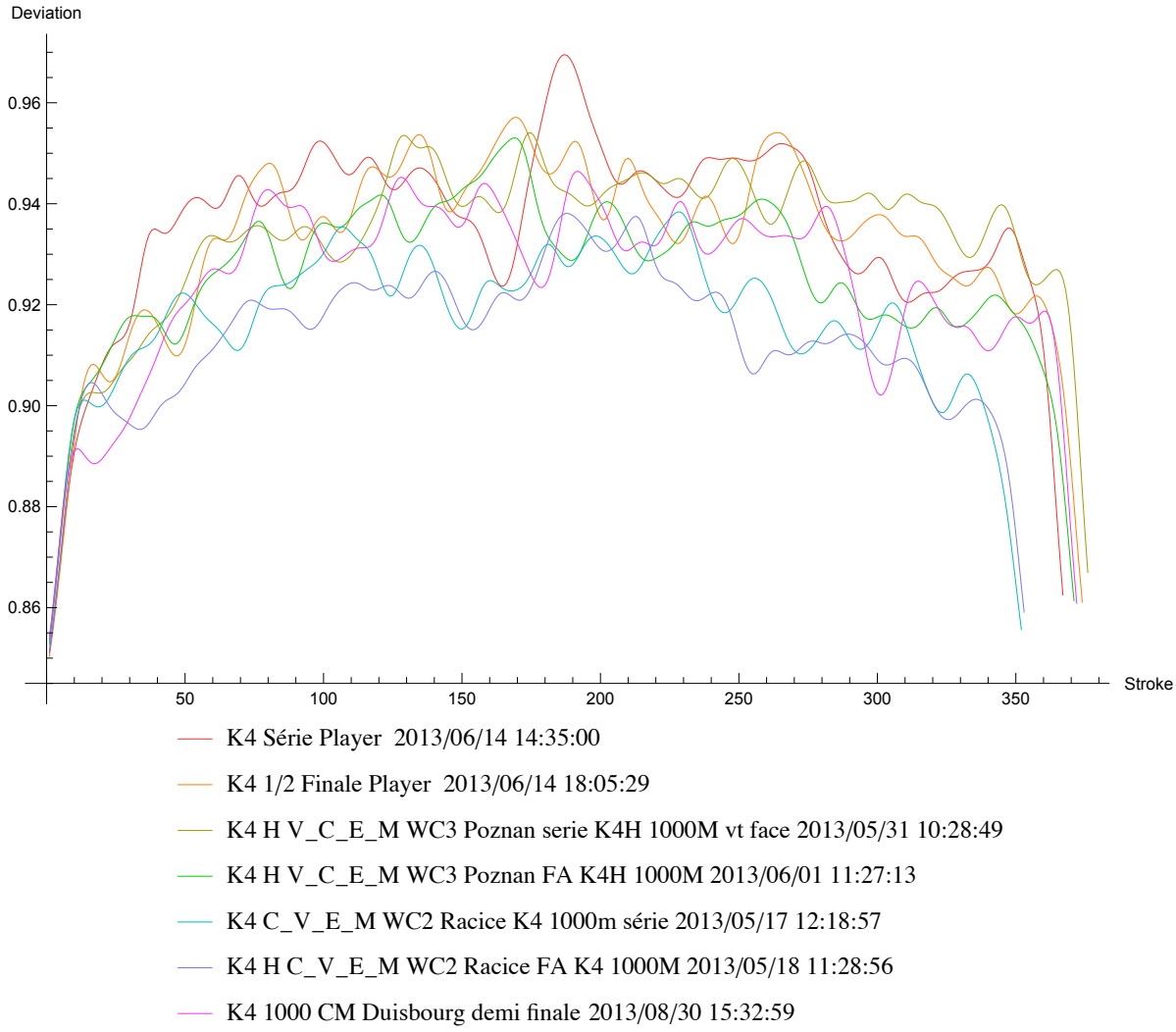
Analyses données accélérométriques du K4 - 1000 m 2013

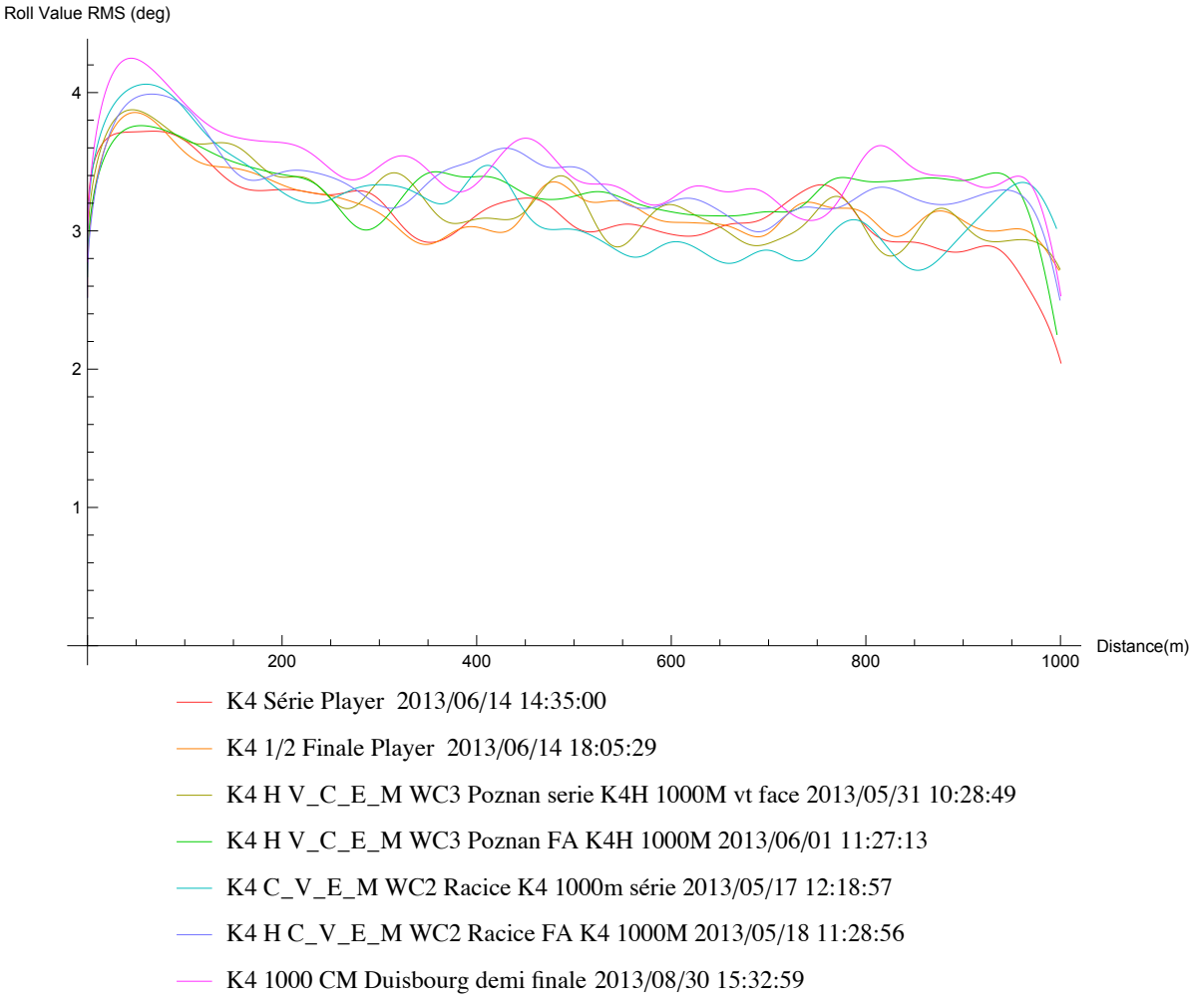
Taux de déviation des cycles par rapport au cycle moyen sur la course

```
ListPlot[Table[Power[6 + applylowpassfilter[
      Log[1 - getData[dataproc, i, "Forward Acceleration Garbage Rate (Stroke)"]],
      10], -0.1], {i, 1, Length[getData[dataimport]]}], Joined → True,
 PlotRange → {All, All}, AxesLabel → {"Stroke", "Deviation"} ,
 PlotStyle → Map[Function[x, RGBColor@ColorConvert[
       Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
   {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 PlotLegends → Placed[LineLegend[Automatic,
    Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]],
    LegendLayout → "Column"], Bottom], ImageSize → Full]
```


Deviation
0.96
0.94
0.92
0.90
0.88
0.86
50
100
150
200
250
300
350
Stroke
K4 Série Player 2013/06/14 14:35:00
K4 1/2 Finale Player 2013/06/14 18:05:29
K4 H V_C_E_M WC3 Poznan serie K4H 1000M vt face 2013/05/31 10:28:49
K4 H V_C_E_M WC3 Poznan FA K4H 1000M 2013/06/01 11:27:13
K4 C_V_E_M WC2 Racice K4 1000m série 2013/05/17 12:18:57
K4 H C_V_E_M WC2 Racice FA K4 1000M 2013/05/18 11:28:56
K4 1000 CM Duisbourg demi finale 2013/08/30 15:32:59

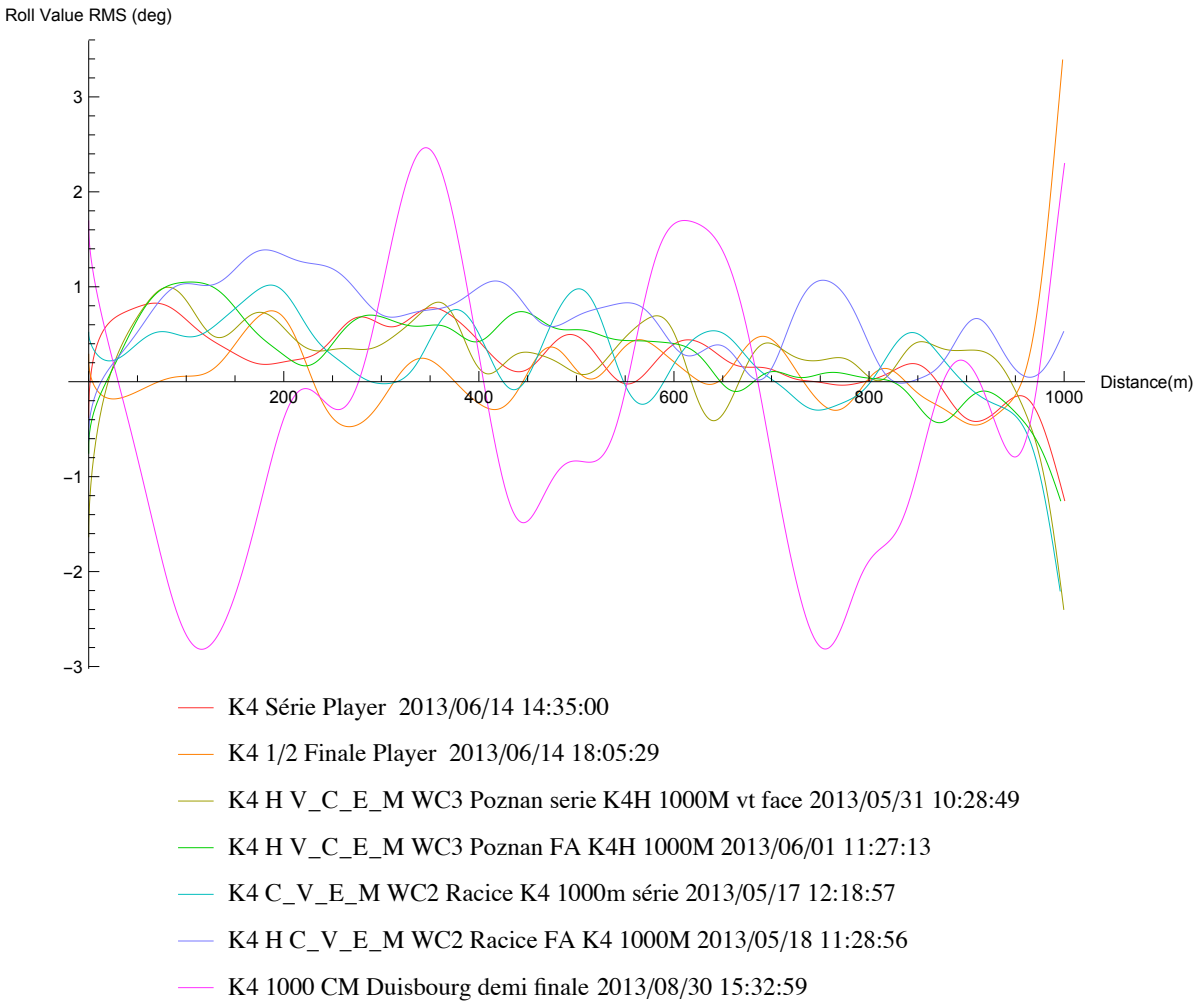
Amplitude RMS de l'oscillation en gîte

```
ListPlot[Table[Transpose[{
    getData[dataproc, i, "Forward Distance"],
    Power[applylowpassfilter[Power[applyhighpassfilter[
        getData[dataproc, i, "Roll Angle"], 500], 2], 1000], 1 / 2] * 180 / π
  }], {i, 1, Length[getData[dataimport]]}], Joined → True,
 PlotRange → {All, All}, AxesLabel → {"Distance(m)", "Roll Value RMS (deg)"},
 PlotStyle → Map[Function[x, RGBColor@ColorConvert[
     Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
  {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 PlotLegends → Placed[LineLegend[Automatic,
    Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]],
    LegendLayout → "Column"], Bottom], ImageSize → Full]
```

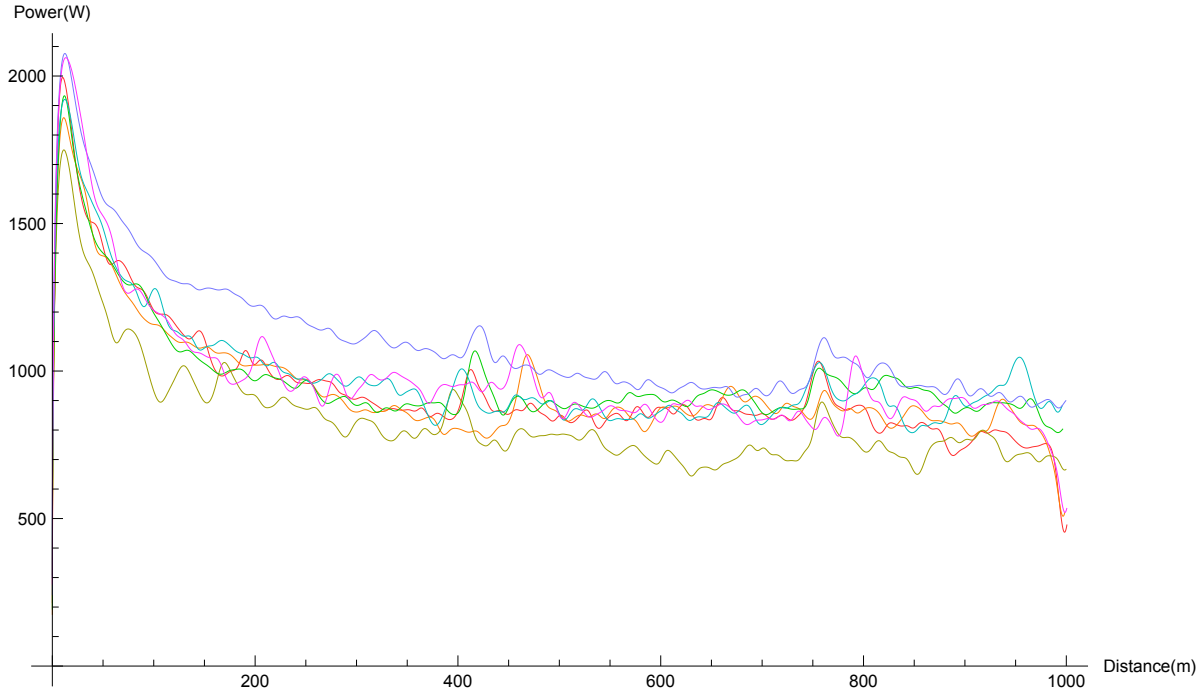


Variation de la composante continue en gîte

```
ListPlot[Table[Transpose[{
    getData[dataproc, i, "Forward Distance"],
    applylowpassfilter[getData[dataproc, i, "Roll Angle"], 1000] * 180 / π
   }], {i, 1, Length[getData[dataimport]]}], Joined → True,
 PlotRange → {All, All}, AxesLabel → {"Distance(m)", "Roll Value RMS (deg)"} ,
 PlotStyle → Map[Function[x, RGBColor@ColorConvert[
      Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
   {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 PlotLegends → Placed[LineLegend[Automatic,
    Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]],
    LegendLayout → "Column"], Bottom], ImageSize → Full]
```



```
ListPlot[Table[Transpose[{
    getData[dataproc, i, "Forward Distance"],
    applylowpassfilter[getData[dataproc, i, "Total Power"], 200]
   }], {i, 1, Length[getData[dataimport]]}], Joined → True,
 PlotRange → {All, All}, AxesLabel → {"Distance(m)", "Power(W)"} ,
 PlotStyle → Map[Function[x, RGBColor@ColorConvert[
      Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
   {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 PlotLegends → Placed[LineLegend[Automatic,
    Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]],
    LegendLayout → "Column"], Bottom], ImageSize → Full]
```



K4 Série Player 2013/06/14 14:35:00

K4 1/2 Finale Player 2013/06/14 18:05:29

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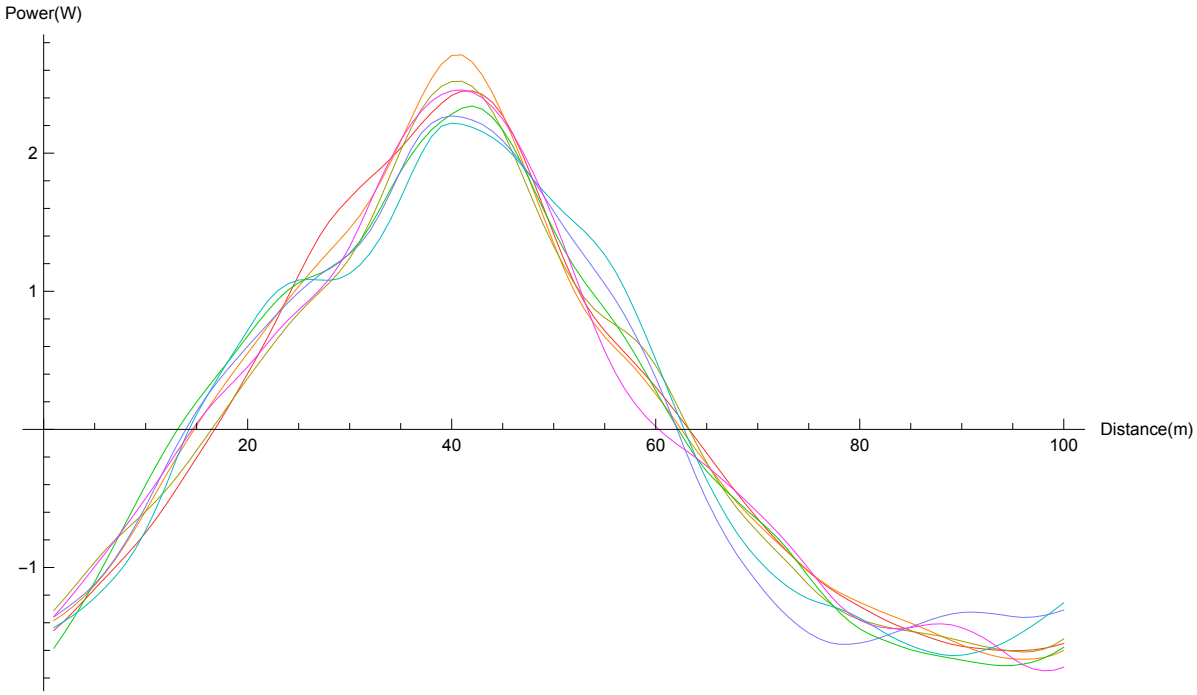
K4 H C_V_E_M WC2 Racice FA K4 1000M 2013/05/18 11:28:56

K4 1000 CM Duisbourg demi finale 2013/08/30 15:32:59

```
ListPlot[Table[

  Mean[normalizelength[
    Take[getData[dataproc, i, "Forward Acceleration (Stroke)"], {1, -1, 2}]]]

  , {i, 1, Length[getData[dataimport]]}], Joined → True,
 PlotRange → {All, All}, AxesLabel → {"Distance(m)", "Power(W)"} ,
 PlotStyle → Map[Function[x, RGBColor@ColorConvert[
      Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
   {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 PlotLegends → Placed[LineLegend[Automatic,
    Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]],
    LegendLayout → "Column"], Bottom], ImageSize → Full]
ListPlot[Table[

  Mean[normalizelength[
    Take[getData[dataproc, i, "Forward Acceleration (Stroke)"], {2, -1, 2}]]]

  , {i, 1, Length[getData[dataimport]]}], Joined → True,
 PlotRange → {All, All}, AxesLabel → {"Distance(m)", "Power(W)"} ,
 PlotStyle → Map[Function[x, RGBColor@ColorConvert[
      Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
   {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 PlotLegends → Placed[LineLegend[Automatic,
    Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]],
    LegendLayout → "Column"], Bottom], ImageSize → Full]

ListPlot[Table[

  Mean[normalizelength[getData[dataproc, i, "Forward Acceleration (Stroke)"]]]

  , {i, 1, Length[getData[dataimport]]}], Joined → True,
 PlotRange → {All, All}, AxesLabel → {"Distance(m)", "Power(W)"} ,
 PlotStyle → Map[Function[x, RGBColor@ColorConvert[
      Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
   {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 PlotLegends → Placed[LineLegend[Automatic,
    Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]],
    LegendLayout → "Column"], Bottom], ImageSize → Full]
```



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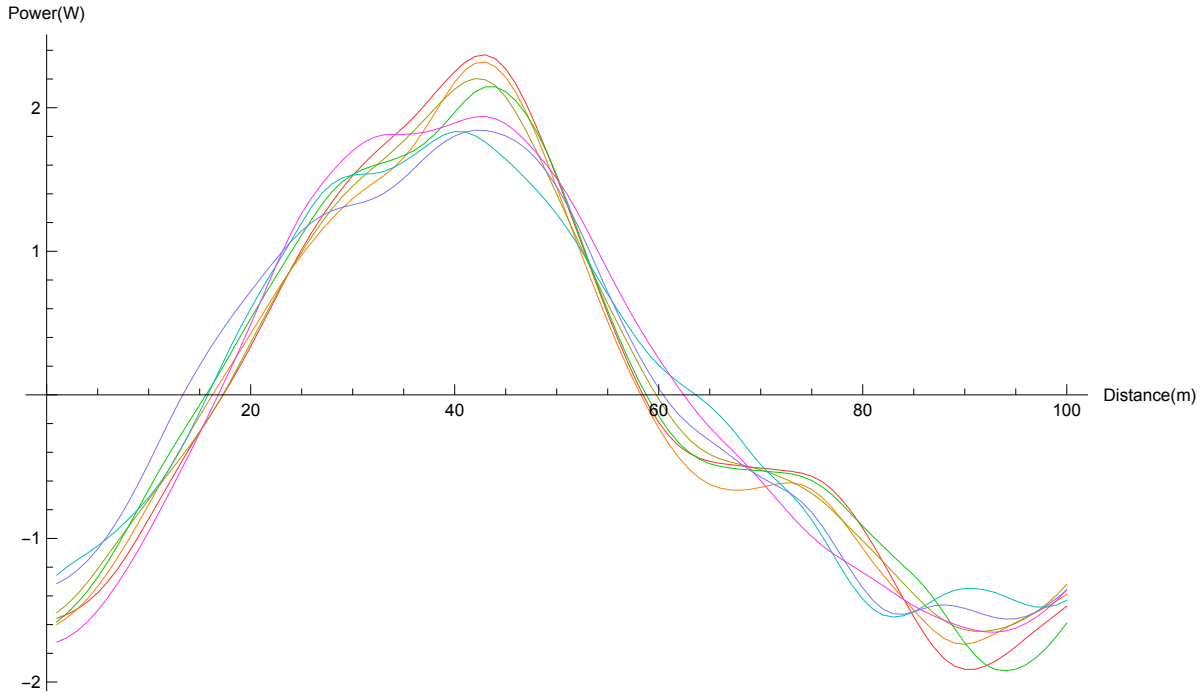
K4 1000 CM Duisbourg demi finale 2013/08/30 15:32:59



K4 Série Player 2013/06/14 14:35:00

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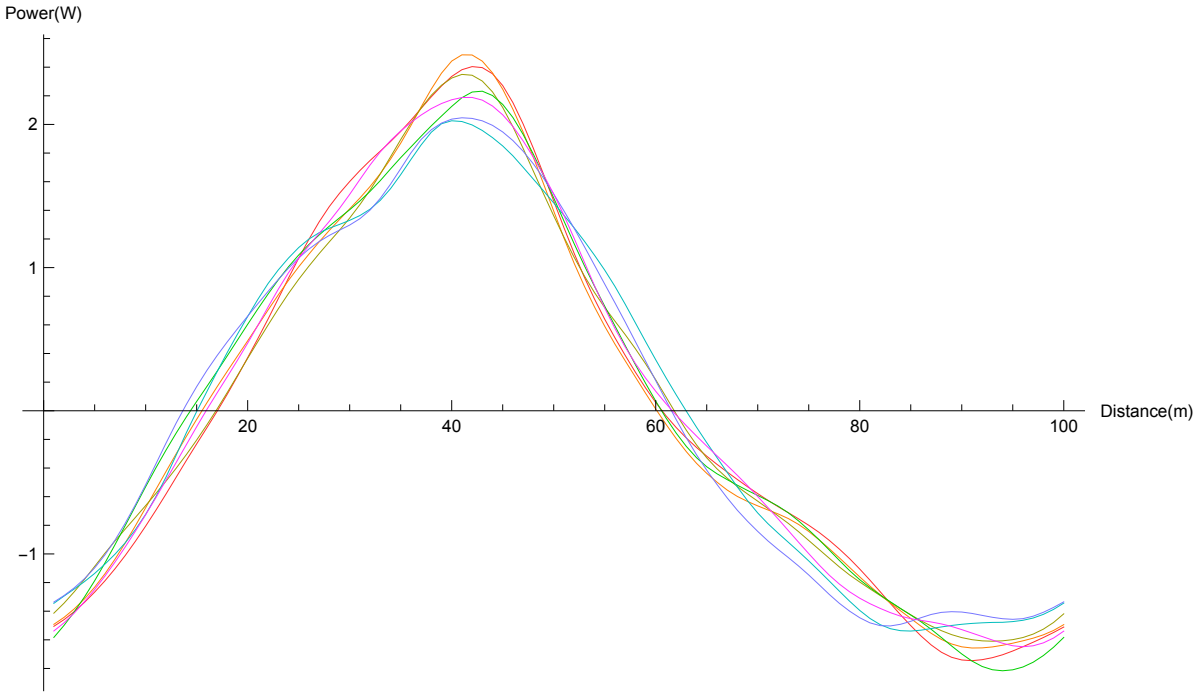

K4 Série Player 2013/06/14 14:35:00

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K4 H V_C_E_M WC3 Poznan serie K4H 1000M vt face 2013/05/31 10:28:49

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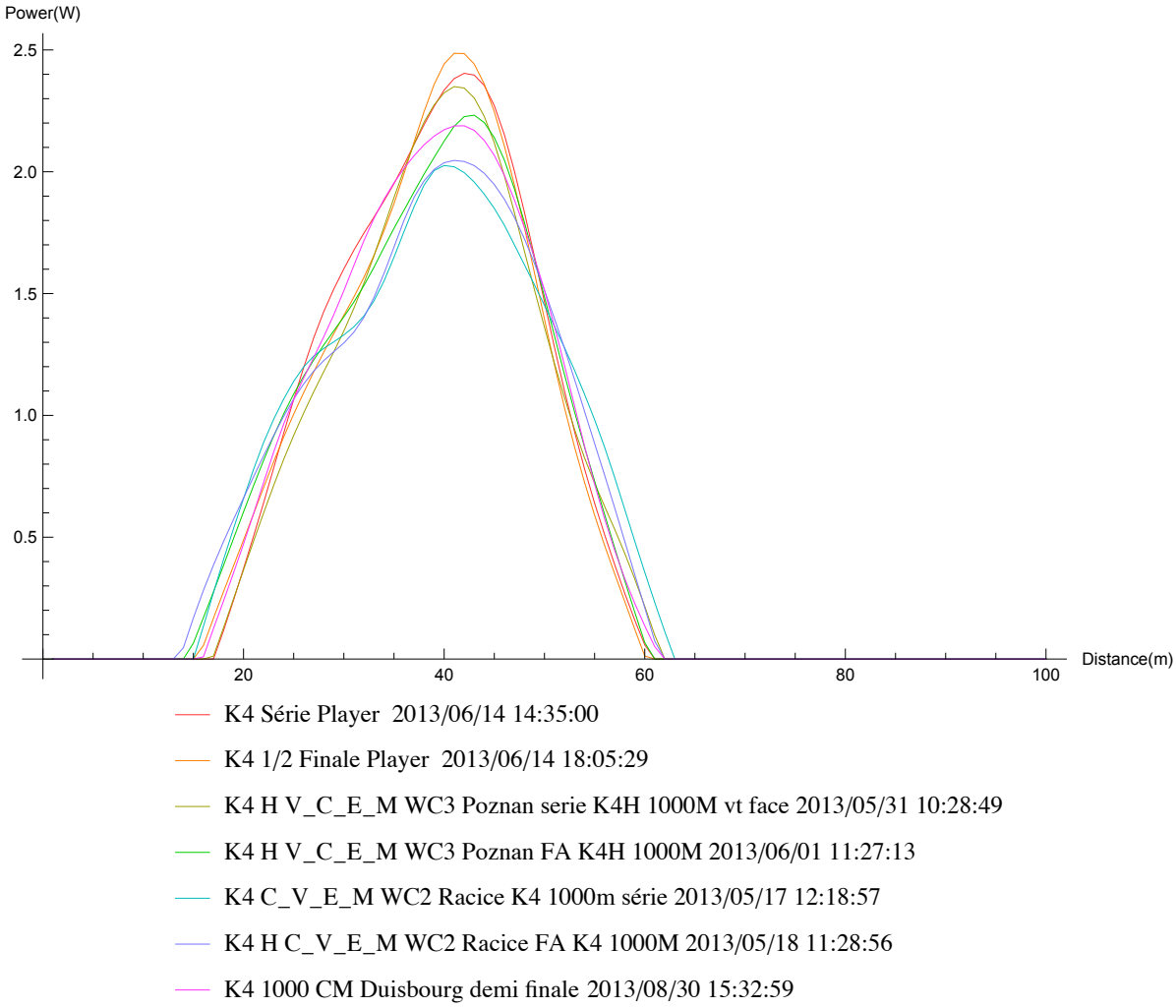
K4 H C_V_E_M WC2 Racice FA K4 1000M 2013/05/18 11:28:56

K4 1000 CM Duisbourg demi finale 2013/08/30 15:32:59

```
ListPlot[Table[

  Map[Function[x, Max[x, 0]], Mean[
    normalizelength[getData[dataproc, i, "Forward Acceleration (Stroke)"]]]]

  , {i, 1, Length[getData[dataimport]]}], Joined → True,
 PlotRange → {All, All}, AxesLabel → {"Distance(m)", "Power(W)"} ,
 PlotStyle → Map[Function[x, RGBColor@ColorConvert[
      Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
   {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 PlotLegends → Placed[LineLegend[Automatic,
    Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]],
    LegendLayout → "Column"], Bottom], ImageSize → Full]
```




```
Table[
 Total@
  Map[Function[x, Max[x, 0]], Mean[
    normalizelength[getData[dataproc, i, "Forward Acceleration (Stroke)"]]]]

 , {i, 1, Length[getData[dataimport]]}]
```

```
{58.757, 57.6063, 56.1299, 57.584, 57.3758, 57.2894, 58.0417}
```

```
Total[{58.757, 57.6063, 56.1299, 57.584, 57.3758, 57.2894, 58.0417}]
```

```
402.784
```

```
BarChart[Table[
  Total@Map[Function[x, Max[x, 0]^2], Mean[normalizelength[
       getData[dataproc, i, "Forward Acceleration (Stroke)"]]]] /
   Total@Map[Function[x, Max[x, 0]], Mean[normalizelength[
       getData[dataproc, i, "Forward Acceleration (Stroke)"]]]]

  , {i, 1, Length[getData[dataimport]]}],
 ChartStyle → Map[Function[x, RGBColor@ColorConvert[
      Join[{.8}, Take[ColorConvert[x, "LUV"], {2, 3}]], "LUV" → "RGB"]],
   {Red, Orange, Yellow, Green, Cyan, Blue, Magenta}],
 ChartLegends → Map[Function[x, Apply[List, x]], getData[dataproc]][[All, 1]]]
```