dataS = Import["/Users/hannah/Desktop/ZS2425/timovyP/BL-3602.dat",

"Table"];

(\*Uloženie daných stĺpcov do daných názvov, priradenie\*)

BS = dataS[[All, 1]];

LS = dataS[[All, 2]];

dataX = Import["/Users/hannah/Desktop/ZS2425/timovyP/BL-32402.dat",

"Table"];

BX = dataX[[All, 1]];

LX = dataX[[All, 2]];

(\*Konštanty\*)

GM = 398600.5; (\*GM\*)

R = 6378;

altitude = 230;

dGM = (2\*GM)/((R + altitude)^3);

n = 3602;

m = 32402;

(\*konštantné pole dGM\*)

dGMarray = ConstantArray[dGM, n];

BSrad = N[BS\*Degree];

LSrad = N[LS\*Degree];

BXrad = N[BX\*Degree];

LXrad = N[LX\*Degree];

(\*polomer + nejaká hodnota, funkcia, jej definícia\*)

Rtotal[alt\_] := R + alt;

(\*funckia na vypocet vzdialenosti bodov\*)

distance[{x1\_, y1\_, z1\_}, {x2\_, y2\_, z2\_}] :=

Sqrt[(x2 - x1)^2 + (y2 - y1)^2 + (z2 - z1)^2];

coordinatesS = Table[{Rtotal[0]\*Cos[BSrad[[i]]]\*Cos[LSrad[[i]]],

Rtotal[0]\*Cos[BSrad[[i]]]\*Sin[LSrad[[i]]],

Rtotal[0]\*Sin[BSrad[[i]]] },

{i, 1, n}];

(\*Výpočet kartézských Xi\*)

coordinatesX =

Table[{Rtotal[altitude]\*Cos[BXrad[[i]]]\*

Cos[LXrad[[i]]],(\*x komponent\*)

Rtotal[altitude]\*Cos[BXrad[[i]]]\*Sin[LXrad[[i]]], (\*y\*)

Rtotal[altitude]\*

Sin[BXrad[[i]]]

},

{i, 1, m}];

coordinatesES =

Table[

{Cos[BSrad[[i]]]\*Cos[LSrad[[i]]],

Cos[BSrad[[i]]]\*Sin[LSrad[[i]]],

Sin[BSrad[[i]]]

}, {i, 1, n}];

Atransposed = Transpose[A];

S = Atransposed . A

alpha = LinearSolve[numericA, dGMarray ]