Contents

MECH 6970 Lab 2, Part 2

```
genutil.ccc
gps.constants

user_lla = [dms2dd(32,35,26.16), -dms2dd(85,29,21.21), 200];
user_ecef = coordutil.wgslla2xyz(user_lla(1),user_lla(2),user_lla(3));
```

Load data

```
load(['..' filesep 'data' filesep 'Novatel_Data__pyparsed.mat'])
% pick Novatel0 to use for data
clear gNovatel1

% put ephem into a matrix
% use the latest data for each, if multiple ephem packets
ephem_novatel = zeros(32,30);
ephem_novatel([1,2,4,8,9,12,17,24,28,32],:) = [...
  gNovatel0.Ephem1.val(end,:)
  gNovatel0.Ephem2.val(end,:)
  gNovatel0.Ephem4.val(end,:)
  gNovatel0.Ephem8.val(end,:)
  gNovatel0.Ephem9.val(end,:)
  gNovatel0.Ephem12.val(end,:)
  gNovatel0.Ephem17.val(end,:)
  gNovatel0.Ephem24.val(end,:)
  gNovatel0.Ephem28.val(end,:)
  gNovatel0.Ephem32.val(end,:)
];
% convert columns to the format expected by calc_sv_pos
[ephem, prns, tow] = gps.ephem_novatel2gavlab(ephem_novatel);
numsat = length(prns);
```

Satellite positions

```
% transit time estimation
range_est = 20e6;
```