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%  
% Check on bug fix for duplicate timestamps in okxemlog.pl logs  
% 2019-04-30 MJW  
% Patched okxemlog.pl run in parallel with the unpatched script  
% Buggy operation seen during GPSDO unlock.  
  
% Data set 1: no bug fix  
d=ReadCvtimeData(58587,58587,'./','bug.tic');  
dups =diff(d(:,1))==0;  
fprintf('BUGGY:Duplicates = %d\n',sum(dups));  
  
figure(1);  
plot(diff(d(14000:25000,1)),'.');  
xlabel('time (s)');  
ylabel('\Delta timestamp (s)');  
  
figure(2);  
plot(d(14000:25000,2),'.');  
ylim([-0.02 0.02]);  
xlabel('time (s)');  
ylabel('TIC measurement');  
  
% Note that the non-buggy data set still has duplicate timestamps  
% eg  
% 04:47:37 -0.004927865 5976  
% 04:47:38 -0.00492514 999573  
% 04:47:39 -0.007976835 994677  
% 04:47:39 -0.005976835 7807  
% 04:47:40 -0.00597526 911  
% 04:47:41 -0.005973685 996253  
% but these are genuine extra measurements, presumably due to the  
% pps slewing/stepping (note that there is no missing timestamp)  
  
d=Read2Data(58587,58587,'./','nbug.tic');  
dups =diff(d(:,1))==0;  
fprintf('NON-BUGGY:Duplicates = %d\n',sum(dups));
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BUGGY:Duplicates = 1929  
NON-BUGGY:Duplicates = 5
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