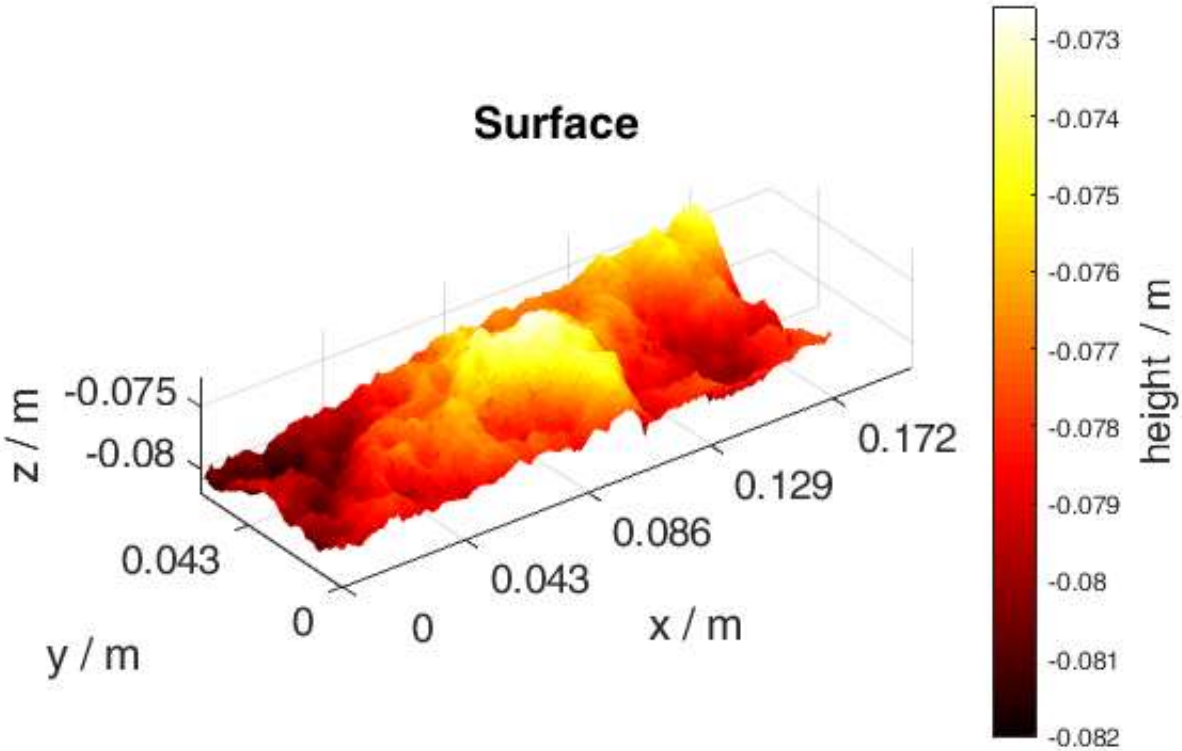
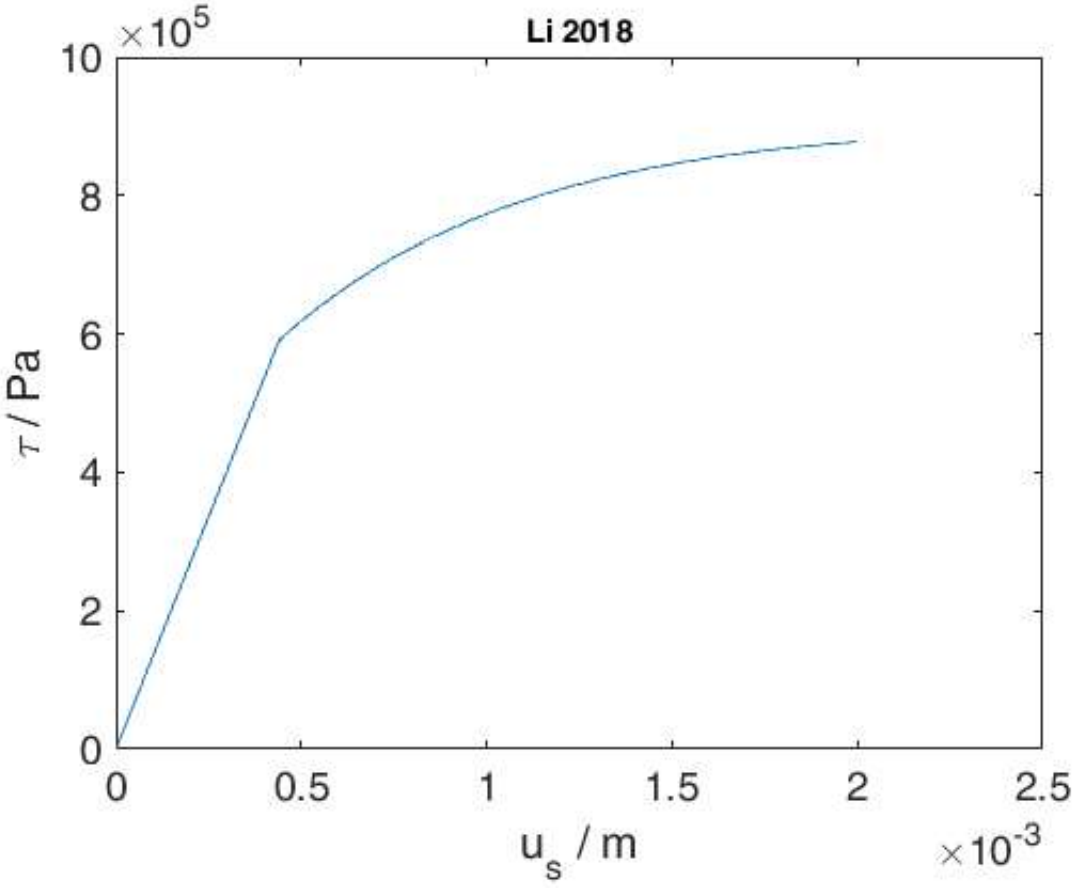
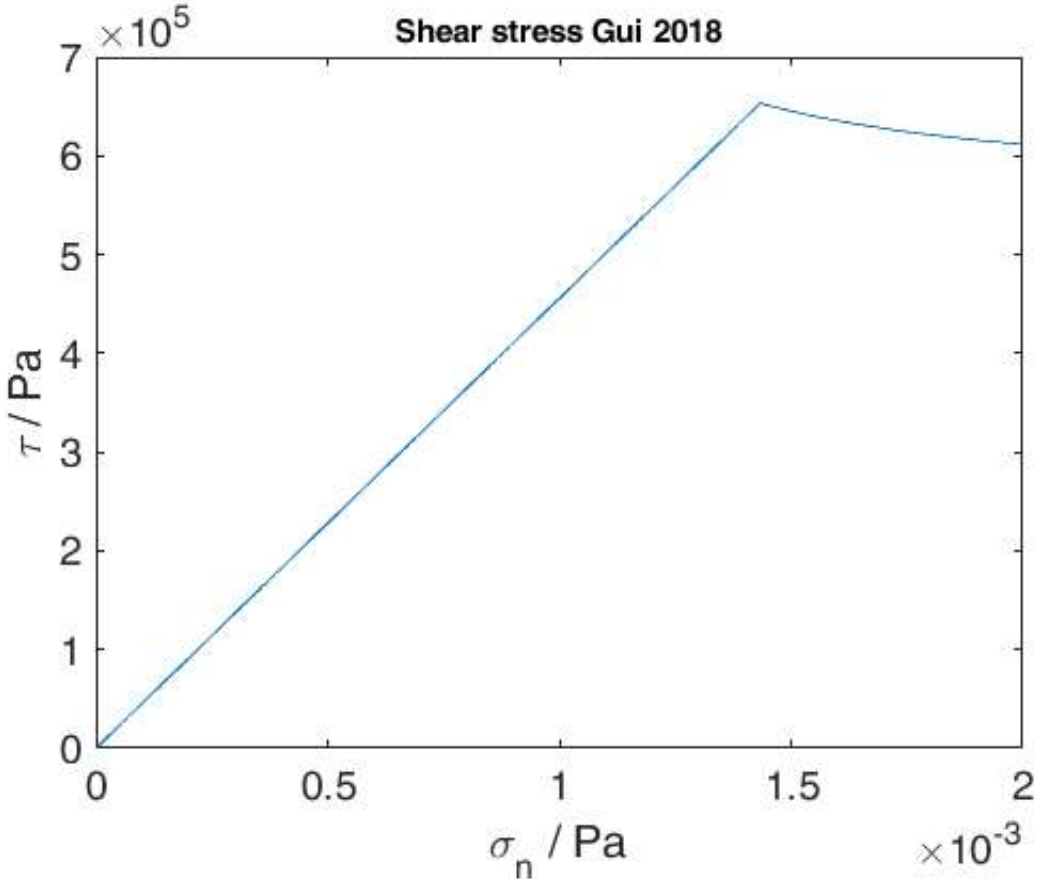
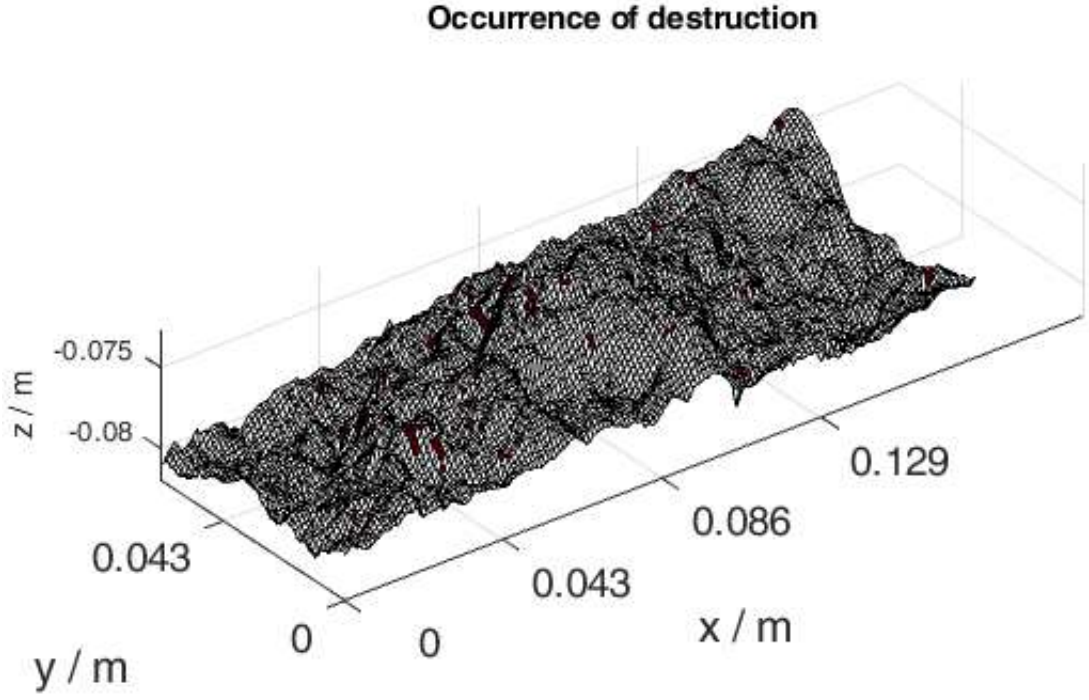
```
function Ecodist
%Calls all functions to predict direct shear tests and to analyse surface
%scan data.
close all
names={'';'';'';''};

% create dialog field
d = dialog('Position',[300 300 250 500],'Name','ECoDiST');

% display a short welcome text
welcome_text=['Welcome to ECoDiST! ',...
    'You will be guided through the programme.'];
uicontrol('Parent',d,...
           'Style','text',...
           'Position',[20 450 210 40],...
           'String',welcome_text);

% question if input files needed
uicontrol('Parent',d,...
           'Style','text',...
           'Position',[20 300 210 40],...
           'String','Do you want to create input files?');

% radiobutton to choose one option
hBtnGrp = uibuttongroup('Parent',d,'Position',...
    [0 0.4 1 0.23],'SelectionChangedFcn',@bselection1);
    uicontrol('Style','Radio', 'Parent',hBtnGrp, ...
        'HandleVisibility','off', 'Position',[0 80 50 30], 'String','Yes');
    uicontrol('Style','Radio', 'Parent',hBtnGrp,...
        'HandleVisibility','off', 'Position',[0 50 100 30],...
        'String','Just Geometry');
    uicontrol('Style','Radio', 'Parent',hBtnGrp, ...
        'HandleVisibility','off', 'Position',[0 20 50 30], 'String','No');
    choice1='Yes';



% button to confirm choice
uicontrol('Parent',d,...
       'Position',[89 20 70 25],...
       'String','Done',...
       'Callback',@button_callback);

% waiting for user input
uiwait(d);



% ==================== callback functions ================================
% callback button group
function bselection1(~,event)
    choice1=event.NewValue.String;
end

% callback function for done button
```

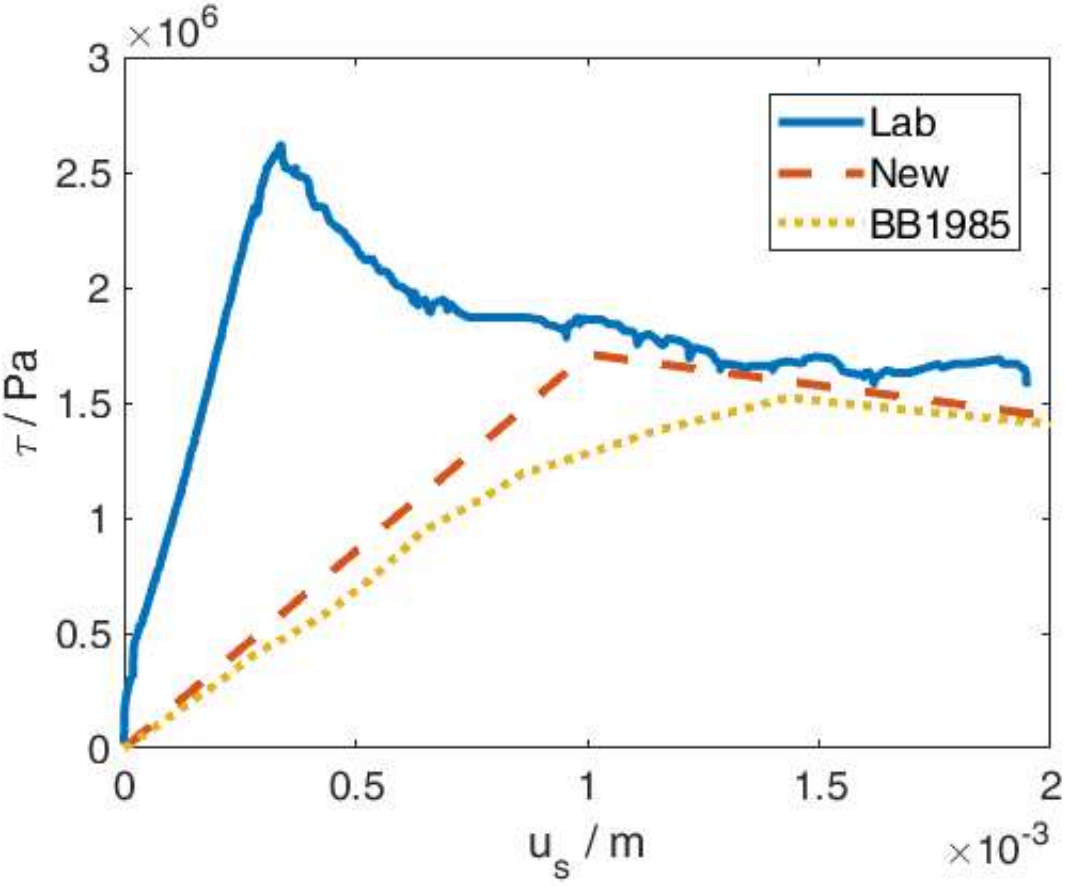
```
function button_callback(~,~)
    delete(gcf);
    if strcmp(choice1,'Yes')
        names=UINames([0 0 0 1]);

        % call function to create geometry
        [names{1},a]=CreateSurfaceFile;

        % call function to create lab parameter file
        names{2}=CreateLabFile(a);

        % call function to create rock parameter file
        names{3}=CreateRockFile;



    elseif strcmp(choice1,'Just Geometry')
        % call function to choose input files for rock and lab parameters
        names=UINames([0 1 1 1]);
        % call function to create geometry
        [names{1}]=CreateSurfaceFile;

    else
        % call function to choose all input files
        names=UINames([1 1 1 1]);
    end

    % =============== Execute the function to do the calculations ============
    Calculations(names);
end

end
```

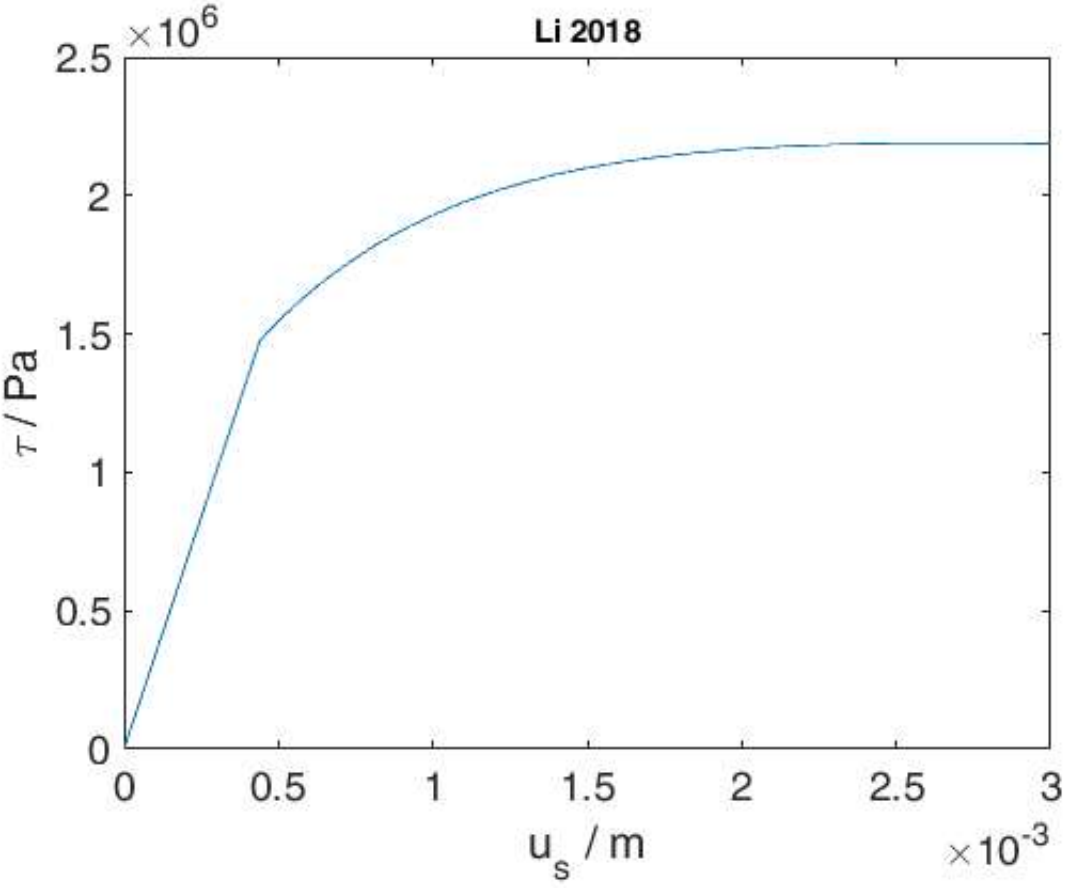

Surface
z / m
-0.075
-0.08
0.043
0
y / m
0
0.043
0.086
0.129
0.172
x / m
height / m
-0.073
-0.074
-0.075
-0.076
-0.077
-0.078
-0.079
-0.08
-0.081
-0.082

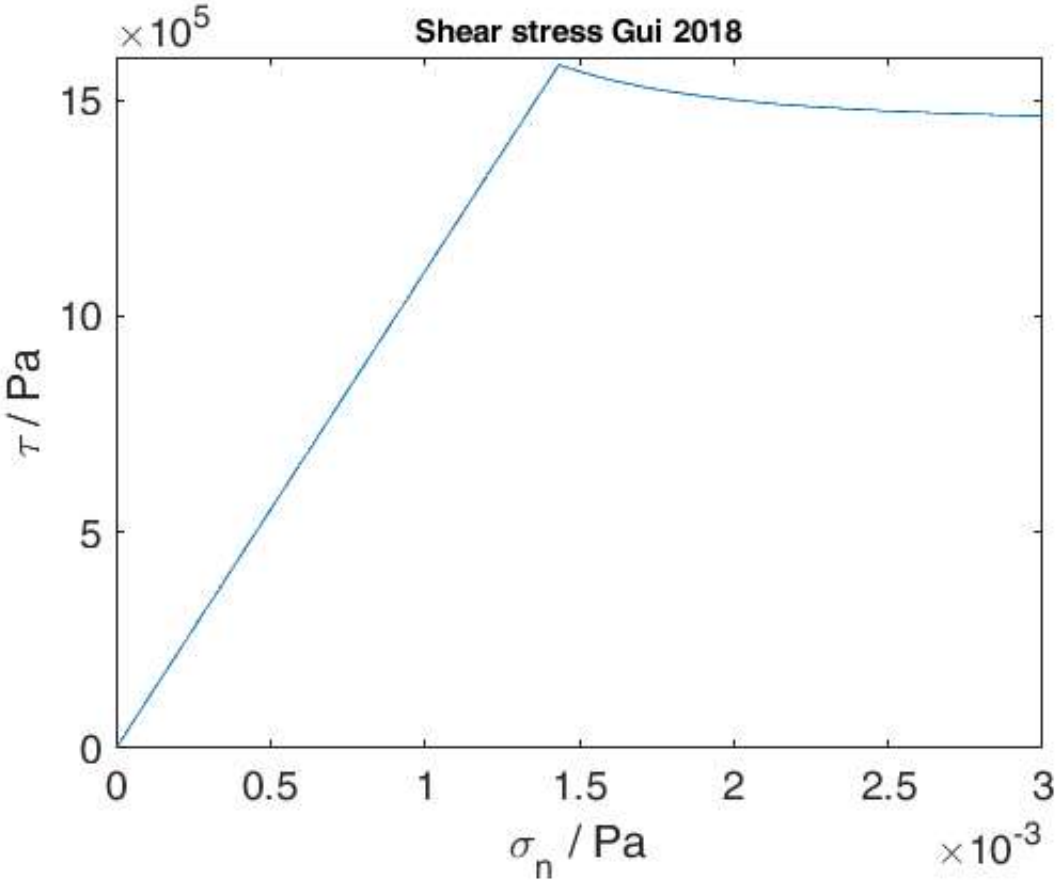

Li 2018
×10^5
10
8
6
4
2
0
τ / Pa
0
0.5
1
1.5
2
2.5
u_s / m
×10^-3

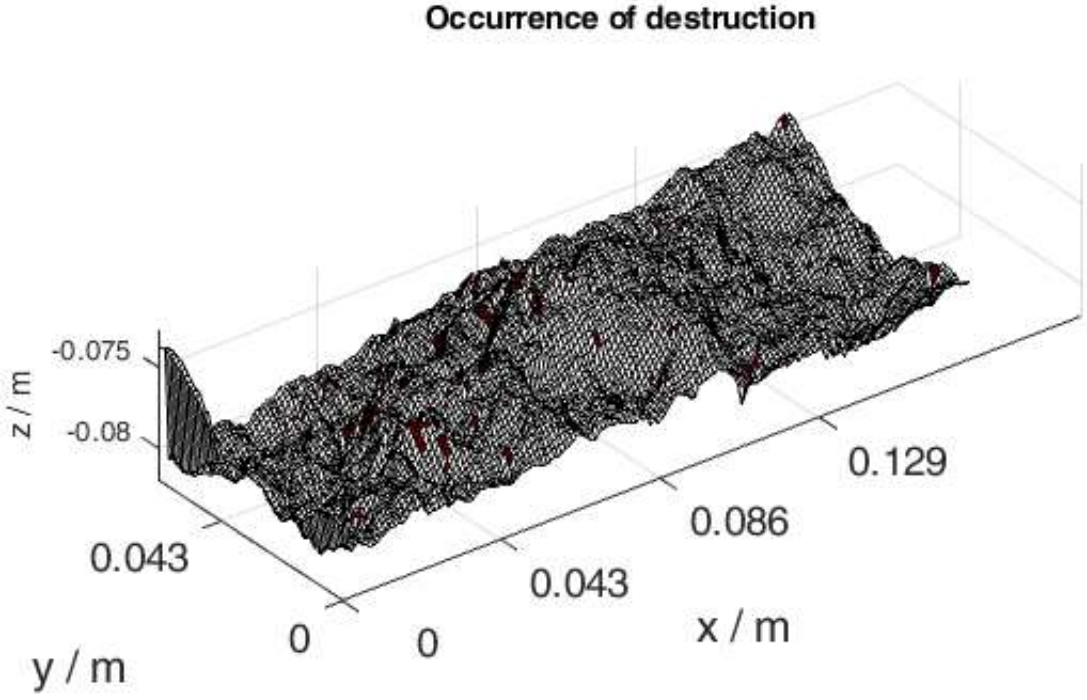

Shear stress Gui 2018
×10^5
7
6
5
4
3
2
1
0
τ / Pa
0
0.5
1
1.5
2
σ_n / Pa
×10^-3

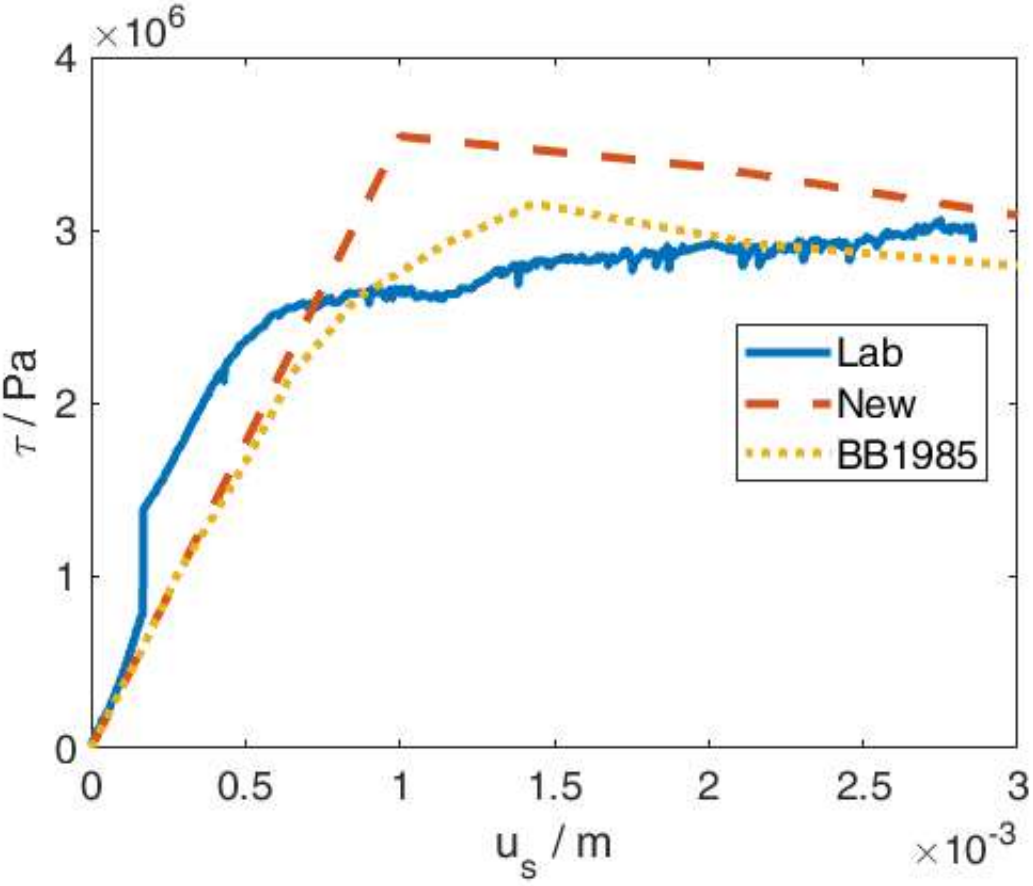

Occurrence of destruction
-0.075
-0.08
z / m
0.043
0
y / m
0
0.043
0.086
0.129
x / m

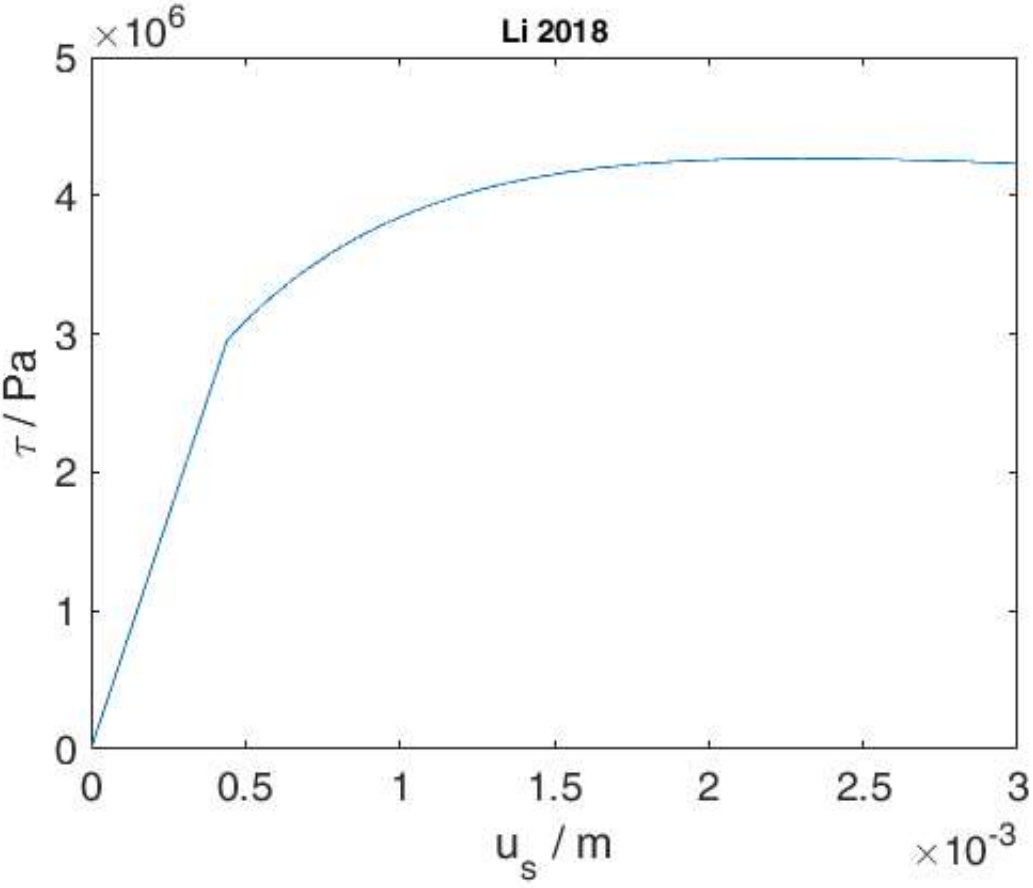

×10^6
3
2.5
2
1.5
1
0.5
0
τ / Pa
Lab
New
BB1985
0
0.5
1
1.5
2
u_s / m
×10^-3

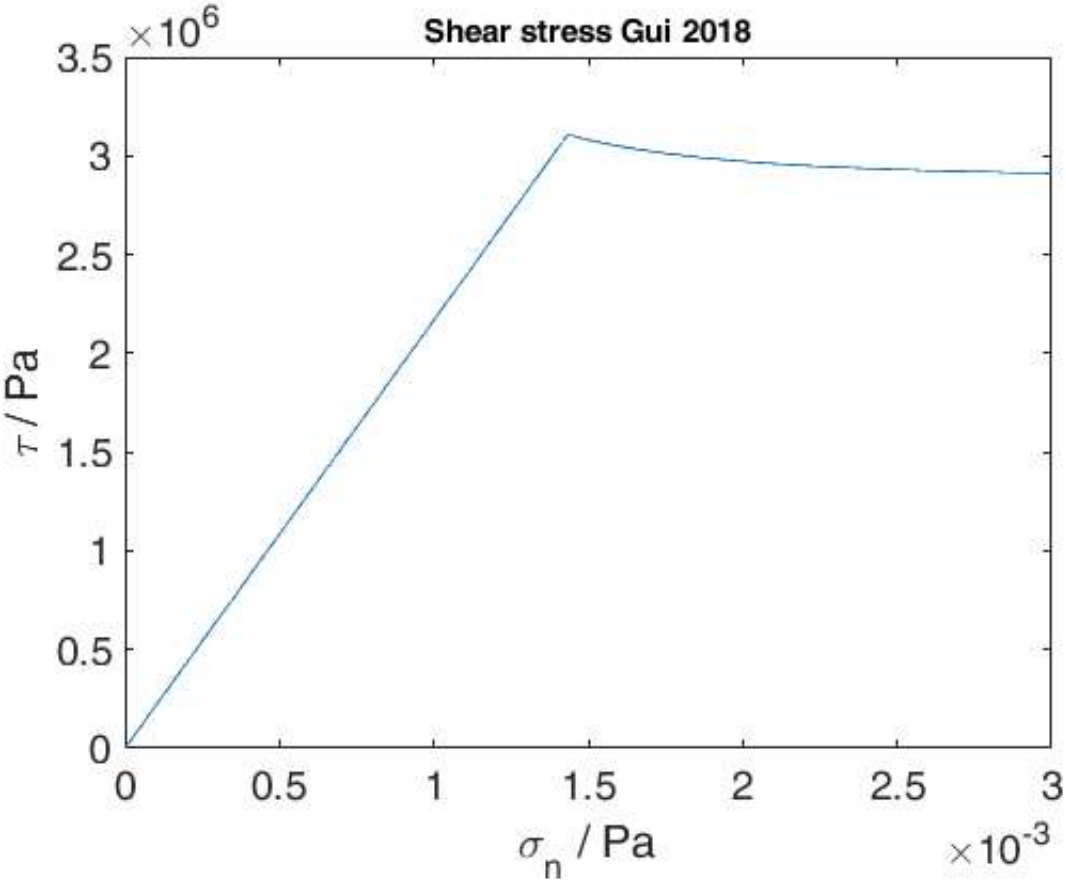

Li 2018
×10^6
2.5
2
1.5
1
0.5
0
τ / Pa
0
0.5
1
1.5
2
2.5
3
u_s / m
×10^-3

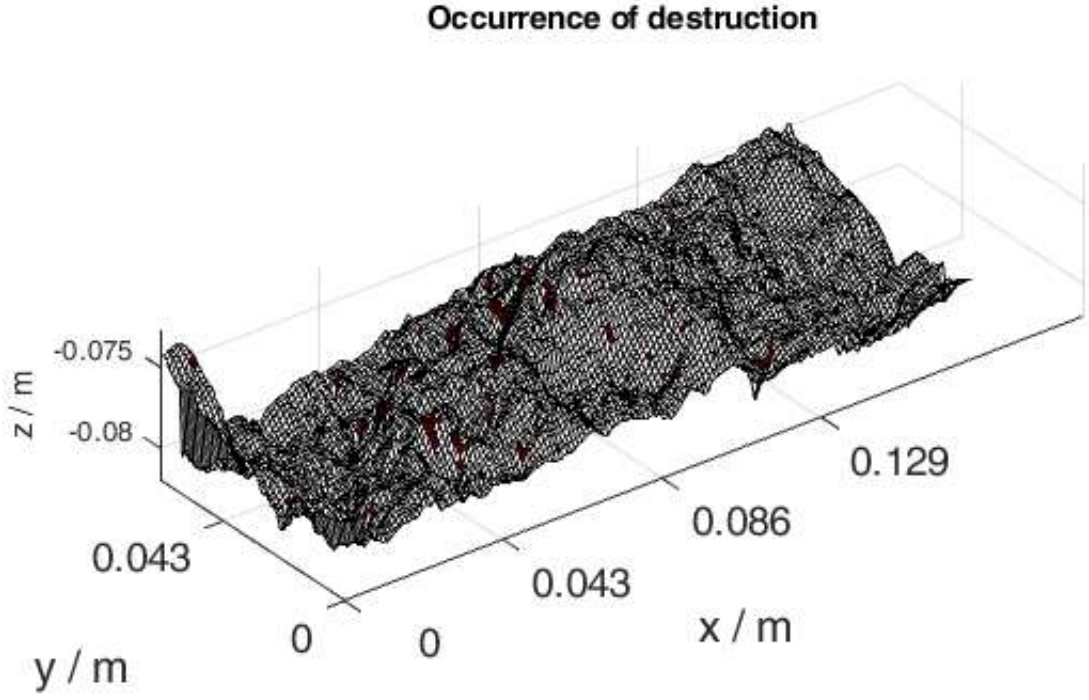

Shear stress Gui 2018
×10^5
15
10
5
0
τ / Pa
0
0.5
1
1.5
2
2.5
3
σ_n / Pa
×10^-3

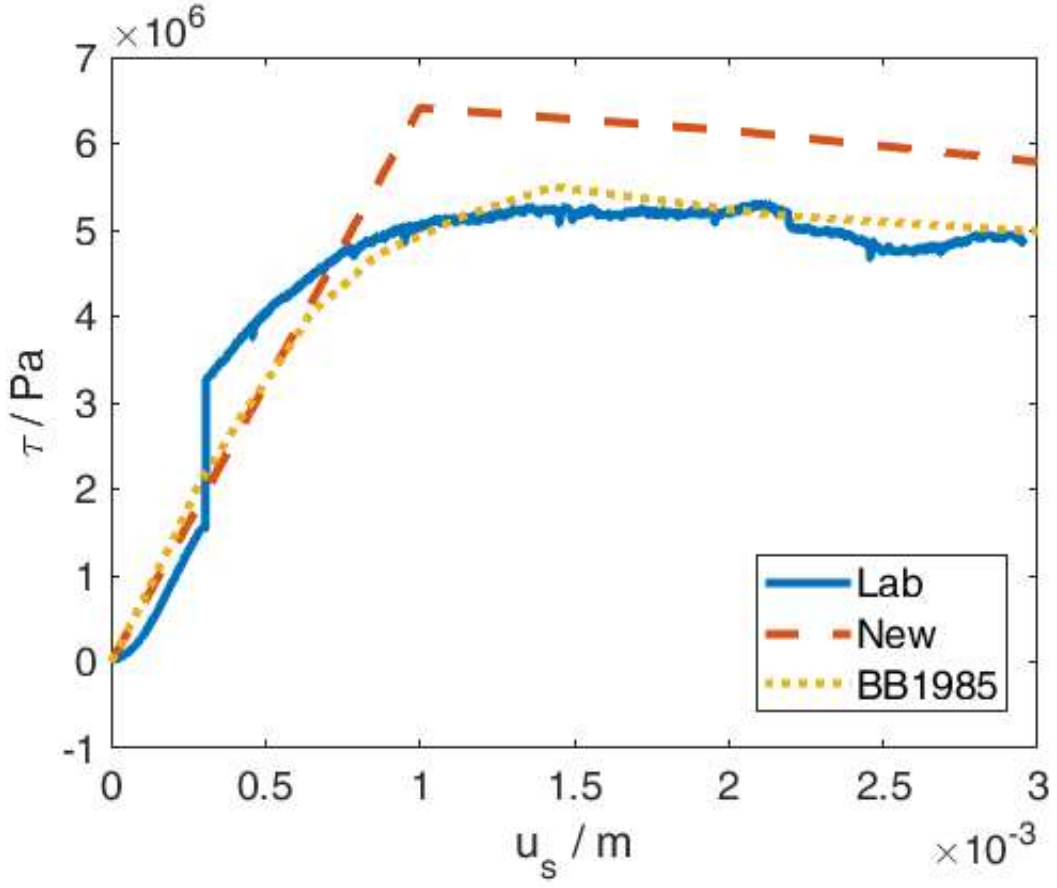

Occurrence of destruction
-0.075
-0.08
z / m
0.043
0
y / m
0
0.043
0.086
0.129
x / m

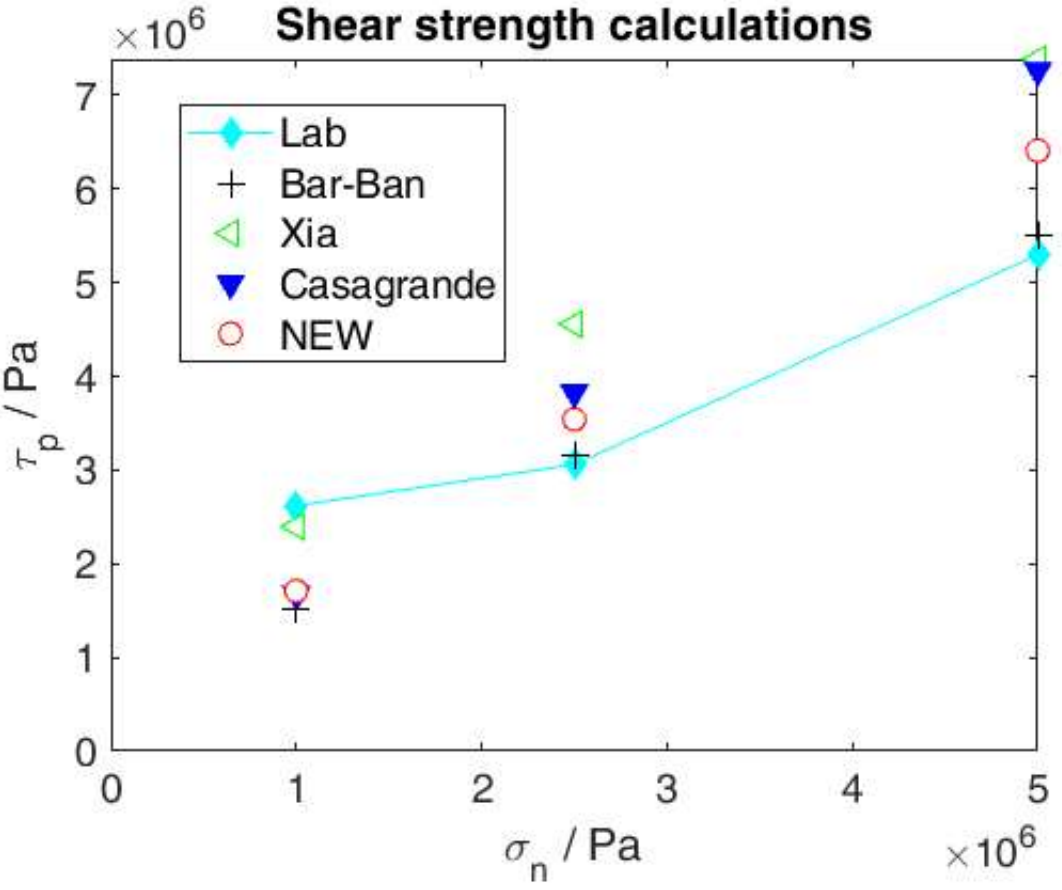

×10^6
4
3
2
1
0
τ / Pa
0
0.5
1
1.5
2
2.5
3
u_s / m
×10^-3
Lab
New
BB1985


Li 2018
×10^6
5
4
3
2
1
0
τ / Pa
0
0.5
1
1.5
2
2.5
3
u_s / m
×10^-3


Shear stress Gui 2018
×10^6
3.5
3
2.5
2
1.5
1
0.5
0
τ / Pa
0
0.5
1
1.5
2
2.5
3
σ_n / Pa
×10^-3


Occurrence of destruction
-0.075
-0.08
z / m
0.043
0
y / m
0
0.043
0.086
0.129
x / m


×10^6
7
6
5
4
3
2
1
0
-1
τ / Pa
0
0.5
1
1.5
2
2.5
3
u_s / m
×10^-3
Lab
New
BB1985


Shear strength calculations
×10^6
7
6
5
4
3
2
1
0
τ_p / Pa
0
1
2
3
4
5
σ_n / Pa
×10^6
Lab
Bar-Ban
Xia
Casagrande
NEW

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