CODE: YBusModified.m

```
f = BusLineData(:, 1); %  first vector column of the bus number (e.g bus from 1 -...)
t = BusLineData(:, 2); %  second vector column of the bus number(e.g bus to ... - 2)
r = BusLineData(:, 3); %  third vector column of the bus number
x = BusLineData(:, 4); %  fourth vector column of the bus number
nL = length(f); %  length of row (branches)
nBUS_length_column = max(max(f), max(t)); % no of buses; note: branches X bus
% Z = R+jX

Z = r + 1j*x; %1j and j are the same
y =  1./Z;
Y_bus = zeros(nL, nBUS_length_column);
%initialize Y_bus to Z;
for k = 1:nL
    Y_bus(f(k), t(k)) = Y_bus(f(k),t(k))-y(k); % use of f(index) for indexing
    Y_bus(t(k), f(k)) = Y_bus(f(k),t(k));

end

for n = 1:nBUS_length_column
    for k = 1:nL
        if f(k) == n
            Y_bus(n,n) = Y_bus(n,n) + y(k);
        else
            if t(k) == n
                Y_bus(n,n) = Y_bus(n,n) + y(k);
            end
        end
    end
end
Zbus = 1./Y_bus;
Zbus = sparse(Zbus);
Zbus
```

```
Zbus =

   (1,1)      0.0006 + 0.0031i
   (2,1)         Inf + 0.0000i
   (3,1)         Inf + 0.0000i
   (4,1)     -0.0006 - 0.0044i
   (5,1)         Inf + 0.0000i
   (6,1)         Inf + 0.0000i
   (7,1)         Inf + 0.0000i
   (8,1)         Inf + 0.0000i
   (9,1)         Inf + 0.0000i
  (10,1)     -0.0160 - 0.0190i
  (11,1)         Inf + 0.0000i
  (12,1)         Inf + 0.0000i
  (13,1)     -0.0023 - 0.0176i
  (14,1)         Inf + 0.0000i
  (15,1)         Inf + 0.0000i
  (16,1)         Inf + 0.0000i
  (17,1)         Inf + 0.0000i
  (18,1)         Inf + 0.0000i
  (19,1)         Inf + 0.0000i
  (20,1)         Inf + 0.0000i
```

```
(21,1)         Inf + 0.0000i
(22,1)         Inf + 0.0000i
(23,1)         Inf + 0.0000i
(24,1)         Inf + 0.0000i
(25,1)         Inf + 0.0000i
(26,1)         Inf + 0.0000i
(27,1)         Inf + 0.0000i
(28,1)         Inf + 0.0000i
(29,1)         Inf + 0.0000i
(30,1)         Inf + 0.0000i
(31,1)         Inf + 0.0000i
(32,1)         Inf + 0.0000i
(33,1)         Inf + 0.0000i
 (1,2)         Inf + 0.0000i
 (2,2)      0.0090 + 0.0070i
 (3,2)         Inf + 0.0000i
 (4,2)         Inf + 0.0000i
 (5,2)         Inf + 0.0000i
 (6,2)         Inf + 0.0000i
 (7,2)         Inf + 0.0000i
 (8,2)     -0.0090 - 0.0070i
 (9,2)         Inf + 0.0000i
(10,2)         Inf + 0.0000i
(11,2)         Inf + 0.0000i
(12,2)         Inf + 0.0000i
(13,2)         Inf + 0.0000i
(14,2)         Inf + 0.0000i
(15,2)         Inf + 0.0000i
(16,2)         Inf + 0.0000i
(17,2)         Inf + 0.0000i
(18,2)         Inf + 0.0000i
(19,2)         Inf + 0.0000i
(20,2)         Inf + 0.0000i
(21,2)         Inf + 0.0000i
(22,2)         Inf + 0.0000i
(23,2)         Inf + 0.0000i
(24,2)         Inf + 0.0000i
(25,2)         Inf + 0.0000i
(26,2)         Inf + 0.0000i
(27,2)         Inf + 0.0000i
(28,2)         Inf + 0.0000i
(29,2)         Inf + 0.0000i
(30,2)         Inf + 0.0000i
(31,2)         Inf + 0.0000i
(32,2)         Inf + 0.0000i
(33,2)         Inf + 0.0000i
 (1,3)         Inf + 0.0000i
 (2,3)         Inf + 0.0000i
 (3,3)      0.0032 + 0.0103i
 (4,3)         Inf + 0.0000i
 (5,3)     -0.0056 - 0.0477i
 (6,3)         Inf + 0.0000i
 (7,3)         Inf + 0.0000i
 (8,3)         Inf + 0.0000i
 (9,3)         Inf + 0.0000i
(10,3)         Inf + 0.0000i
(11,3)         Inf + 0.0000i
(12,3)         Inf + 0.0000i
(13,3)     -0.0054 - 0.0405i
(14,3)         Inf + 0.0000i
(15,3)         Inf + 0.0000i
```

```
(16,3)         Inf + 0.0000i
(17,3)         Inf + 0.0000i
(18,3)         Inf + 0.0000i
(19,3)         Inf + 0.0000i
(20,3)         Inf + 0.0000i
(21,3)         Inf + 0.0000i
(22,3)         Inf + 0.0000i
(23,3)         Inf + 0.0000i
(24,3)         Inf + 0.0000i
(25,3)     -0.0099 - 0.0340i
(26,3)     -0.0291 - 0.0349i
(27,3)         Inf + 0.0000i
(28,3)         Inf + 0.0000i
(29,3)         Inf + 0.0000i
(30,3)         Inf + 0.0000i
(31,3)         Inf + 0.0000i
(32,3)         Inf + 0.0000i
(33,3)         Inf + 0.0000i
 (1,4)     -0.0006 - 0.0044i
 (2,4)         Inf + 0.0000i
 (3,4)         Inf + 0.0000i
 (4,4)      0.0006 + 0.0044i
 (5,4)         Inf + 0.0000i
 (6,4)         Inf + 0.0000i
 (7,4)         Inf + 0.0000i
 (8,4)         Inf + 0.0000i
 (9,4)         Inf + 0.0000i
(10,4)         Inf + 0.0000i
(11,4)         Inf + 0.0000i
(12,4)         Inf + 0.0000i
(13,4)         Inf + 0.0000i
(14,4)         Inf + 0.0000i
(15,4)         Inf + 0.0000i
(16,4)         Inf + 0.0000i
(17,4)         Inf + 0.0000i
(18,4)         Inf + 0.0000i
(19,4)         Inf + 0.0000i
(20,4)         Inf + 0.0000i
(21,4)         Inf + 0.0000i
(22,4)         Inf + 0.0000i
(23,4)         Inf + 0.0000i
(24,4)         Inf + 0.0000i
(25,4)         Inf + 0.0000i
(26,4)         Inf + 0.0000i
(27,4)         Inf + 0.0000i
(28,4)         Inf + 0.0000i
(29,4)         Inf + 0.0000i
(30,4)         Inf + 0.0000i
(31,4)         Inf + 0.0000i
(32,4)         Inf + 0.0000i
(33,4)         Inf + 0.0000i
 (1,5)         Inf + 0.0000i
 (2,5)         Inf + 0.0000i
 (3,5)     -0.0056 - 0.0477i
 (4,5)         Inf + 0.0000i
 (5,5)      0.0033 + 0.0261i
 (6,5)         Inf + 0.0000i
 (7,5)         Inf + 0.0000i
 (8,5)         Inf + 0.0000i
 (9,5)         Inf + 0.0000i
(10,5)     -0.0077 - 0.0576i
```

```
(11,5)         Inf + 0.0000i
(12,5)         Inf + 0.0000i
(13,5)         Inf + 0.0000i
(14,5)         Inf + 0.0000i
(15,5)         Inf + 0.0000i
(16,5)         Inf + 0.0000i
(17,5)         Inf + 0.0000i
(18,5)         Inf + 0.0000i
(19,5)         Inf + 0.0000i
(20,5)         Inf + 0.0000i
(21,5)         Inf + 0.0000i
(22,5)         Inf + 0.0000i
(23,5)         Inf + 0.0000i
(24,5)         Inf + 0.0000i
(25,5)         Inf + 0.0000i
(26,5)         Inf + 0.0000i
(27,5)         Inf + 0.0000i
(28,5)         Inf + 0.0000i
(29,5)         Inf + 0.0000i
(30,5)         Inf + 0.0000i
(31,5)         Inf + 0.0000i
(32,5)         Inf + 0.0000i
(33,5)         Inf + 0.0000i
 (1,6)         Inf + 0.0000i
 (2,6)         Inf + 0.0000i
 (3,6)         Inf + 0.0000i
 (4,6)         Inf + 0.0000i
 (5,6)         Inf + 0.0000i
 (6,6)      0.0007 + 0.0050i
 (7,6)         Inf + 0.0000i
 (8,6)         Inf + 0.0000i
 (9,6)         Inf + 0.0000i
(10,6)         Inf + 0.0000i
(11,6)         Inf + 0.0000i
(12,6)         Inf + 0.0000i
(13,6)     -0.0007 - 0.0050i
(14,6)         Inf + 0.0000i
(15,6)         Inf + 0.0000i
(16,6)         Inf + 0.0000i
(17,6)         Inf + 0.0000i
(18,6)         Inf + 0.0000i
(19,6)         Inf + 0.0000i
(20,6)         Inf + 0.0000i
(21,6)         Inf + 0.0000i
(22,6)         Inf + 0.0000i
(23,6)         Inf + 0.0000i
(24,6)         Inf + 0.0000i
(25,6)         Inf + 0.0000i
(26,6)         Inf + 0.0000i
(27,6)         Inf + 0.0000i
(28,6)         Inf + 0.0000i
(29,6)         Inf + 0.0000i
(30,6)         Inf + 0.0000i
(31,6)         Inf + 0.0000i
(32,6)         Inf + 0.0000i
(33,6)         Inf + 0.0000i
 (1,7)         Inf + 0.0000i
 (2,7)         Inf + 0.0000i
 (3,7)         Inf + 0.0000i
 (4,7)         Inf + 0.0000i
 (5,7)         Inf + 0.0000i
```

```
 (6,7)         Inf + 0.0000i
 (7,7)      0.0008 + 0.0060i
 (8,7)         Inf + 0.0000i
 (9,7)         Inf + 0.0000i
(10,7)         Inf + 0.0000i
(11,7)     -0.0012 - 0.0089i
(12,7)         Inf + 0.0000i
(13,7)         Inf + 0.0000i
(14,7)         Inf + 0.0000i
(15,7)         Inf + 0.0000i
(16,7)         Inf + 0.0000i
(17,7)         Inf + 0.0000i
(18,7)         Inf + 0.0000i
(19,7)         Inf + 0.0000i
(20,7)         Inf + 0.0000i
(21,7)         Inf + 0.0000i
(22,7)         Inf + 0.0000i
(23,7)         Inf + 0.0000i
(24,7)         Inf + 0.0000i
(25,7)         Inf + 0.0000i
(26,7)         Inf + 0.0000i
(27,7)     -0.0025 - 0.0186i
(28,7)         Inf + 0.0000i
(29,7)         Inf + 0.0000i
(30,7)         Inf + 0.0000i
(31,7)         Inf + 0.0000i
(32,7)         Inf + 0.0000i
(33,7)         Inf + 0.0000i
 (1,8)         Inf + 0.0000i
 (2,8)     -0.0090 - 0.0070i
 (3,8)         Inf + 0.0000i
 (4,8)         Inf + 0.0000i
 (5,8)         Inf + 0.0000i
 (6,8)         Inf + 0.0000i
 (7,8)         Inf + 0.0000i
 (8,8)      0.0065 + 0.0069i
 (9,8)         Inf + 0.0000i
(10,8)         Inf + 0.0000i
(11,8)         Inf + 0.0000i
(12,8)         Inf + 0.0000i
(13,8)         Inf + 0.0000i
(14,8)         Inf + 0.0000i
(15,8)         Inf + 0.0000i
(16,8)         Inf + 0.0000i
(17,8)         Inf + 0.0000i
(18,8)         Inf + 0.0000i
(19,8)         Inf + 0.0000i
(20,8)         Inf + 0.0000i
(21,8)         Inf + 0.0000i
(22,8)         Inf + 0.0000i
(23,8)         Inf + 0.0000i
(24,8)     -0.0060 - 0.0425i
(25,8)         Inf + 0.0000i
(26,8)         Inf + 0.0000i
(27,8)         Inf + 0.0000i
(28,8)         Inf + 0.0000i
(29,8)         Inf + 0.0000i
(30,8)         Inf + 0.0000i
(31,8)         Inf + 0.0000i
(32,8)         Inf + 0.0000i
(33,8)         Inf + 0.0000i
```

```
 (1,9)         Inf + 0.0000i
 (2,9)         Inf + 0.0000i
 (3,9)         Inf + 0.0000i
 (4,9)         Inf + 0.0000i
 (5,9)         Inf + 0.0000i
 (6,9)         Inf + 0.0000i
 (7,9)         Inf + 0.0000i
 (8,9)         Inf + 0.0000i
 (9,9)      0.0121 + 0.0942i
(10,9)         Inf + 0.0000i
(11,9)         Inf + 0.0000i
(12,9)         Inf + 0.0000i
(13,9)         Inf + 0.0000i
(14,9)         Inf + 0.0000i
(15,9)         Inf + 0.0000i
(16,9)         Inf + 0.0000i
(17,9)         Inf + 0.0000i
(18,9)     -0.0121 - 0.0942i
(19,9)         Inf + 0.0000i
(20,9)         Inf + 0.0000i
(21,9)         Inf + 0.0000i
(22,9)         Inf + 0.0000i
(23,9)         Inf + 0.0000i
(24,9)         Inf + 0.0000i
(25,9)         Inf + 0.0000i
(26,9)         Inf + 0.0000i
(27,9)         Inf + 0.0000i
(28,9)         Inf + 0.0000i
(29,9)         Inf + 0.0000i
(30,9)         Inf + 0.0000i
(31,9)         Inf + 0.0000i
(32,9)         Inf + 0.0000i
(33,9)         Inf + 0.0000i
 (1,10)    -0.0160 - 0.0190i
 (2,10)         Inf + 0.0000i
 (3,10)         Inf + 0.0000i
 (4,10)         Inf + 0.0000i
 (5,10)    -0.0077 - 0.0576i
 (6,10)         Inf + 0.0000i
 (7,10)         Inf + 0.0000i
 (8,10)         Inf + 0.0000i
 (9,10)         Inf + 0.0000i
(10,10)     0.0013 + 0.0039i
(11,10)    -0.0043 - 0.0316i
(12,10)         Inf + 0.0000i
(13,10)    -0.0100 - 0.0779i
(14,10)         Inf + 0.0000i
(15,10)         Inf + 0.0000i
(16,10)         Inf + 0.0000i
(17,10)         Inf + 0.0000i
(18,10)         Inf + 0.0000i
(19,10)         Inf + 0.0000i
(20,10)         Inf + 0.0000i
(21,10)         Inf + 0.0000i
(22,10)         Inf + 0.0000i
(23,10)    -0.0160 - 0.0190i
(24,10)    -0.0054 - 0.0405i
(25,10)    -0.0099 - 0.0742i
(26,10)         Inf + 0.0000i
(27,10)    -0.0018 - 0.0139i
(28,10)         Inf + 0.0000i
```

```
(29,10)        Inf + 0.0000i
(30,10)        Inf + 0.0000i
(31,10)        Inf + 0.0000i
(32,10)        Inf + 0.0000i
(33,10)        Inf + 0.0000i
 (1,11)        Inf + 0.0000i
 (2,11)        Inf + 0.0000i
 (3,11)        Inf + 0.0000i
 (4,11)        Inf + 0.0000i
 (5,11)        Inf + 0.0000i
 (6,11)        Inf + 0.0000i
 (7,11)    -0.0012 - 0.0089i
 (8,11)        Inf + 0.0000i
 (9,11)        Inf + 0.0000i
(10,11)    -0.0043 - 0.0316i
(11,11)     0.0009 + 0.0069i
(12,11)        Inf + 0.0000i
(13,11)        Inf + 0.0000i
(14,11)        Inf + 0.0000i
(15,11)        Inf + 0.0000i
(16,11)        Inf + 0.0000i
(17,11)        Inf + 0.0000i
(18,11)        Inf + 0.0000i
(19,11)        Inf + 0.0000i
(20,11)        Inf + 0.0000i
(21,11)        Inf + 0.0000i
(22,11)        Inf + 0.0000i
(23,11)        Inf + 0.0000i
(24,11)        Inf + 0.0000i
(25,11)        Inf + 0.0000i
(26,11)        Inf + 0.0000i
(27,11)        Inf + 0.0000i
(28,11)        Inf + 0.0000i
(29,11)        Inf + 0.0000i
(30,11)        Inf + 0.0000i
(31,11)        Inf + 0.0000i
(32,11)        Inf + 0.0000i
(33,11)        Inf + 0.0000i
 (1,12)        Inf + 0.0000i
 (2,12)        Inf + 0.0000i
 (3,12)        Inf + 0.0000i
 (4,12)        Inf + 0.0000i
 (5,12)        Inf + 0.0000i
 (6,12)        Inf + 0.0000i
 (7,12)        Inf + 0.0000i
 (8,12)        Inf + 0.0000i
 (9,12)        Inf + 0.0000i
(10,12)        Inf + 0.0000i
(11,12)        Inf + 0.0000i
(12,12)     0.0118 + 0.0887i
(13,12)        Inf + 0.0000i
(14,12)        Inf + 0.0000i
(15,12)        Inf + 0.0000i
(16,12)    -0.0118 - 0.0887i
(17,12)        Inf + 0.0000i
(18,12)        Inf + 0.0000i
(19,12)        Inf + 0.0000i
(20,12)        Inf + 0.0000i
(21,12)        Inf + 0.0000i
(22,12)        Inf + 0.0000i
(23,12)        Inf + 0.0000i
```

```
(24,12)        Inf + 0.0000i
(25,12)        Inf + 0.0000i
(26,12)        Inf + 0.0000i
(27,12)        Inf + 0.0000i
(28,12)        Inf + 0.0000i
(29,12)        Inf + 0.0000i
(30,12)        Inf + 0.0000i
(31,12)        Inf + 0.0000i
(32,12)        Inf + 0.0000i
(33,12)        Inf + 0.0000i
 (1,13)    -0.0023 - 0.0176i
 (2,13)        Inf + 0.0000i
 (3,13)    -0.0054 - 0.0405i
 (4,13)        Inf + 0.0000i
 (5,13)        Inf + 0.0000i
 (6,13)    -0.0007 - 0.0050i
 (7,13)        Inf + 0.0000i
 (8,13)        Inf + 0.0000i
 (9,13)        Inf + 0.0000i
(10,13)    -0.0100 - 0.0779i
(11,13)        Inf + 0.0000i
(12,13)        Inf + 0.0000i
(13,13)     0.0004 + 0.0024i
(14,13)        Inf + 0.0000i
(15,13)        Inf + 0.0000i
(16,13)        Inf + 0.0000i
(17,13)        Inf + 0.0000i
(18,13)        Inf + 0.0000i
(19,13)        Inf + 0.0000i
(20,13)        Inf + 0.0000i
(21,13)        Inf + 0.0000i
(22,13)        Inf + 0.0000i
(23,13)    -0.0240 - 0.0292i
(24,13)        Inf + 0.0000i
(25,13)    -0.0092 - 0.0695i
(26,13)    -0.0016 - 0.0118i
(27,13)        Inf + 0.0000i
(28,13)        Inf + 0.0000i
(29,13)        Inf + 0.0000i
(30,13)        Inf + 0.0000i
(31,13)        Inf + 0.0000i
(32,13)        Inf + 0.0000i
(33,13)        Inf + 0.0000i
 (1,14)        Inf + 0.0000i
 (2,14)        Inf + 0.0000i
 (3,14)        Inf + 0.0000i
 (4,14)        Inf + 0.0000i
 (5,14)        Inf + 0.0000i
 (6,14)        Inf + 0.0000i
 (7,14)        Inf + 0.0000i
 (8,14)        Inf + 0.0000i
 (9,14)        Inf + 0.0000i
(10,14)        Inf + 0.0000i
(11,14)        Inf + 0.0000i
(12,14)        Inf + 0.0000i
(13,14)        Inf + 0.0000i
(14,14)     0.0003 + 0.0022i
(15,14)    -0.0003 - 0.0022i
(16,14)        Inf + 0.0000i
(17,14)        Inf + 0.0000i
(18,14)        Inf + 0.0000i
```

(19,14)   Inf + 0.0000i
(20,14)   Inf + 0.0000i
(21,14)   Inf + 0.0000i
(22,14)   Inf + 0.0000i
(23,14)   Inf + 0.0000i
(24,14)   Inf + 0.0000i
(25,14)   Inf + 0.0000i
(26,14)   Inf + 0.0000i
(27,14)   Inf + 0.0000i
(28,14)   Inf + 0.0000i
(29,14)   Inf + 0.0000i
(30,14)   Inf + 0.0000i
(31,14)   Inf + 0.0000i
(32,14)   Inf + 0.0000i
(33,14)   Inf + 0.0000i
 (1,15)   Inf + 0.0000i
 (2,15)   Inf + 0.0000i
 (3,15)   Inf + 0.0000i
 (4,15)   Inf + 0.0000i
 (5,15)   Inf + 0.0000i
 (6,15)   Inf + 0.0000i
 (7,15)   Inf + 0.0000i
 (8,15)   Inf + 0.0000i
 (9,15)   Inf + 0.0000i
(10,15)   Inf + 0.0000i
(11,15)   Inf + 0.0000i
(12,15)   Inf + 0.0000i
(13,15)   Inf + 0.0000i
(14,15)   -0.0003 - 0.0022i
(15,15)   0.0003 + 0.0020i
(16,15)   Inf + 0.0000i
(17,15)   Inf + 0.0000i
(18,15)   -0.0029 - 0.0246i
(19,15)   Inf + 0.0000i
(20,15)   Inf + 0.0000i
(21,15)   Inf + 0.0000i
(22,15)   Inf + 0.0000i
(23,15)   Inf + 0.0000i
(24,15)   Inf + 0.0000i
(25,15)   Inf + 0.0000i
(26,15)   Inf + 0.0000i
(27,15)   Inf + 0.0000i
(28,15)   -0.0067 - 0.0702i
(29,15)   Inf + 0.0000i
(30,15)   Inf + 0.0000i
(31,15)   Inf + 0.0000i
(32,15)   Inf + 0.0000i
(33,15)   Inf + 0.0000i
 (1,16)   Inf + 0.0000i
 (2,16)   Inf + 0.0000i
 (3,16)   Inf + 0.0000i
 (4,16)   Inf + 0.0000i
 (5,16)   Inf + 0.0000i
 (6,16)   Inf + 0.0000i
 (7,16)   Inf + 0.0000i
 (8,16)   Inf + 0.0000i
 (9,16)   Inf + 0.0000i
(10,16)   Inf + 0.0000i
(11,16)   Inf + 0.0000i
(12,16)   -0.0118 - 0.0887i
(13,16)   Inf + 0.0000i

```
(14,16)        Inf + 0.0000i
(15,16)        Inf + 0.0000i
(16,16)     0.0047 + 0.0358i
(17,16)    -0.0079 - 0.0599i
(18,16)        Inf + 0.0000i
(19,16)        Inf + 0.0000i
(20,16)        Inf + 0.0000i
(21,16)        Inf + 0.0000i
(22,16)        Inf + 0.0000i
(23,16)        Inf + 0.0000i
(24,16)        Inf + 0.0000i
(25,16)        Inf + 0.0000i
(26,16)        Inf + 0.0000i
(27,16)        Inf + 0.0000i
(28,16)        Inf + 0.0000i
(29,16)        Inf + 0.0000i
(30,16)        Inf + 0.0000i
(31,16)        Inf + 0.0000i
(32,16)        Inf + 0.0000i
(33,16)        Inf + 0.0000i
 (1,17)        Inf + 0.0000i
 (2,17)        Inf + 0.0000i
 (3,17)        Inf + 0.0000i
 (4,17)        Inf + 0.0000i
 (5,17)        Inf + 0.0000i
 (6,17)        Inf + 0.0000i
 (7,17)        Inf + 0.0000i
 (8,17)        Inf + 0.0000i
 (9,17)        Inf + 0.0000i
(10,17)        Inf + 0.0000i
(11,17)        Inf + 0.0000i
(12,17)        Inf + 0.0000i
(13,17)        Inf + 0.0000i
(14,17)        Inf + 0.0000i
(15,17)        Inf + 0.0000i
(16,17)    -0.0079 - 0.0599i
(17,17)     0.0019 + 0.0153i
(18,17)        Inf + 0.0000i
(19,17)    -0.0090 - 0.0689i
(20,17)        Inf + 0.0000i
(21,17)        Inf + 0.0000i
(22,17)        Inf + 0.0000i
(23,17)        Inf + 0.0000i
(24,17)        Inf + 0.0000i
(25,17)        Inf + 0.0000i
(26,17)        Inf + 0.0000i
(27,17)        Inf + 0.0000i
(28,17)    -0.0034 - 0.0292i
(29,17)        Inf + 0.0000i
(30,17)        Inf + 0.0000i
(31,17)        Inf + 0.0000i
(32,17)        Inf + 0.0000i
(33,17)        Inf + 0.0000i
 (1,18)        Inf + 0.0000i
 (2,18)        Inf + 0.0000i
 (3,18)        Inf + 0.0000i
 (4,18)        Inf + 0.0000i
 (5,18)        Inf + 0.0000i
 (6,18)        Inf + 0.0000i
 (7,18)        Inf + 0.0000i
 (8,18)        Inf + 0.0000i
```

 (9,18)   -0.0121 - 0.0942i
(10,18)   Inf + 0.0000i
(11,18)   Inf + 0.0000i
(12,18)   Inf + 0.0000i
(13,18)   Inf + 0.0000i
(14,18)   Inf + 0.0000i
(15,18)   -0.0029 - 0.0246i
(16,18)   Inf + 0.0000i
(17,18)   Inf + 0.0000i
(18,18)   0.0023 + 0.0195i
(19,18)   Inf + 0.0000i
(20,18)   Inf + 0.0000i
(21,18)   Inf + 0.0000i
(22,18)   Inf + 0.0000i
(23,18)   Inf + 0.0000i
(24,18)   Inf + 0.0000i
(25,18)   Inf + 0.0000i
(26,18)   Inf + 0.0000i
(27,18)   Inf + 0.0000i
(28,18)   Inf + 0.0000i
(29,18)   Inf + 0.0000i
(30,18)   Inf + 0.0000i
(31,18)   Inf + 0.0000i
(32,18)   Inf + 0.0000i
(33,18)   Inf + 0.0000i
 (1,19)   Inf + 0.0000i
 (2,19)   Inf + 0.0000i
 (3,19)   Inf + 0.0000i
 (4,19)   Inf + 0.0000i
 (5,19)   Inf + 0.0000i
 (6,19)   Inf + 0.0000i
 (7,19)   Inf + 0.0000i
 (8,19)   Inf + 0.0000i
 (9,19)   Inf + 0.0000i
(10,19)   Inf + 0.0000i
(11,19)   Inf + 0.0000i
(12,19)   Inf + 0.0000i
(13,19)   Inf + 0.0000i
(14,19)   Inf + 0.0000i
(15,19)   Inf + 0.0000i
(16,19)   Inf + 0.0000i
(17,19)   -0.0090 - 0.0689i
(18,19)   Inf + 0.0000i
(19,19)   0.0090 + 0.0689i
(20,19)   Inf + 0.0000i
(21,19)   Inf + 0.0000i
(22,19)   Inf + 0.0000i
(23,19)   Inf + 0.0000i
(24,19)   Inf + 0.0000i
(25,19)   Inf + 0.0000i
(26,19)   Inf + 0.0000i
(27,19)   Inf + 0.0000i
(28,19)   Inf + 0.0000i
(29,19)   Inf + 0.0000i
(30,19)   Inf + 0.0000i
(31,19)   Inf + 0.0000i
(32,19)   Inf + 0.0000i
(33,19)   Inf + 0.0000i
 (1,20)   Inf + 0.0000i
 (2,20)   Inf + 0.0000i
 (3,20)   Inf + 0.0000i

```
 (4,20)        Inf + 0.0000i
 (5,20)        Inf + 0.0000i
 (6,20)        Inf + 0.0000i
 (7,20)        Inf + 0.0000i
 (8,20)        Inf + 0.0000i
 (9,20)        Inf + 0.0000i
(10,20)        Inf + 0.0000i
(11,20)        Inf + 0.0000i
(12,20)        Inf + 0.0000i
(13,20)        Inf + 0.0000i
(14,20)        Inf + 0.0000i
(15,20)        Inf + 0.0000i
(16,20)        Inf + 0.0000i
(17,20)        Inf + 0.0000i
(18,20)        Inf + 0.0000i
(19,20)        Inf + 0.0000i
(20,20)     0.0052 + 0.0401i
(21,20)        Inf + 0.0000i
(22,20)        Inf + 0.0000i
(23,20)        Inf + 0.0000i
(24,20)        Inf + 0.0000i
(25,20)        Inf + 0.0000i
(26,20)        Inf + 0.0000i
(27,20)        Inf + 0.0000i
(28,20)    -0.0052 - 0.0401i
(29,20)        Inf + 0.0000i
(30,20)        Inf + 0.0000i
(31,20)        Inf + 0.0000i
(32,20)        Inf + 0.0000i
(33,20)        Inf + 0.0000i
 (1,21)        Inf + 0.0000i
 (2,21)        Inf + 0.0000i
 (3,21)        Inf + 0.0000i
 (4,21)        Inf + 0.0000i
 (5,21)        Inf + 0.0000i
 (6,21)        Inf + 0.0000i
 (7,21)        Inf + 0.0000i
 (8,21)        Inf + 0.0000i
 (9,21)        Inf + 0.0000i
(10,21)        Inf + 0.0000i
(11,21)        Inf + 0.0000i
(12,21)        Inf + 0.0000i
(13,21)        Inf + 0.0000i
(14,21)        Inf + 0.0000i
(15,21)        Inf + 0.0000i
(16,21)        Inf + 0.0000i
(17,21)        Inf + 0.0000i
(18,21)        Inf + 0.0000i
(19,21)        Inf + 0.0000i
(20,21)        Inf + 0.0000i
(21,21)     0.0038 + 0.0285i
(22,21)        Inf + 0.0000i
(23,21)        Inf + 0.0000i
(24,21)    -0.0038 - 0.0285i
(25,21)        Inf + 0.0000i
(26,21)        Inf + 0.0000i
(27,21)        Inf + 0.0000i
(28,21)        Inf + 0.0000i
(29,21)        Inf + 0.0000i
(30,21)        Inf + 0.0000i
(31,21)        Inf + 0.0000i
```

```
(32,21)        Inf + 0.0000i
(33,21)        Inf + 0.0000i
 (1,22)        Inf + 0.0000i
 (2,22)        Inf + 0.0000i
 (3,22)        Inf + 0.0000i
 (4,22)        Inf + 0.0000i
 (5,22)        Inf + 0.0000i
 (6,22)        Inf + 0.0000i
 (7,22)        Inf + 0.0000i
 (8,22)        Inf + 0.0000i
 (9,22)        Inf + 0.0000i
(10,22)        Inf + 0.0000i
(11,22)        Inf + 0.0000i
(12,22)        Inf + 0.0000i
(13,22)        Inf + 0.0000i
(14,22)        Inf + 0.0000i
(15,22)        Inf + 0.0000i
(16,22)        Inf + 0.0000i
(17,22)        Inf + 0.0000i
(18,22)        Inf + 0.0000i
(19,22)        Inf + 0.0000i
(20,22)        Inf + 0.0000i
(21,22)        Inf + 0.0000i
(22,22)     0.0090 + 0.0070i
(23,22)        Inf + 0.0000i
(24,22)    -0.0090 - 0.0070i
(25,22)        Inf + 0.0000i
(26,22)        Inf + 0.0000i
(27,22)        Inf + 0.0000i
(28,22)        Inf + 0.0000i
(29,22)        Inf + 0.0000i
(30,22)        Inf + 0.0000i
(31,22)        Inf + 0.0000i
(32,22)        Inf + 0.0000i
(33,22)        Inf + 0.0000i
 (1,23)        Inf + 0.0000i
 (2,23)        Inf + 0.0000i
 (3,23)        Inf + 0.0000i
 (4,23)        Inf + 0.0000i
 (5,23)        Inf + 0.0000i
 (6,23)        Inf + 0.0000i
 (7,23)        Inf + 0.0000i
 (8,23)        Inf + 0.0000i
 (9,23)        Inf + 0.0000i
(10,23)    -0.0160 - 0.0190i
(11,23)        Inf + 0.0000i
(12,23)        Inf + 0.0000i
(13,23)    -0.0240 - 0.0292i
(14,23)        Inf + 0.0000i
(15,23)        Inf + 0.0000i
(16,23)        Inf + 0.0000i
(17,23)        Inf + 0.0000i
(18,23)        Inf + 0.0000i
(19,23)        Inf + 0.0000i
(20,23)        Inf + 0.0000i
(21,23)        Inf + 0.0000i
(22,23)        Inf + 0.0000i
(23,23)     0.0096 + 0.0115i
(24,23)        Inf + 0.0000i
(25,23)        Inf + 0.0000i
(26,23)        Inf + 0.0000i
```

```
(27,23)        Inf + 0.0000i
(28,23)        Inf + 0.0000i
(29,23)        Inf + 0.0000i
(30,23)        Inf + 0.0000i
(31,23)        Inf + 0.0000i
(32,23)        Inf + 0.0000i
(33,23)        Inf + 0.0000i
 (1,24)        Inf + 0.0000i
 (2,24)        Inf + 0.0000i
 (3,24)        Inf + 0.0000i
 (4,24)        Inf + 0.0000i
 (5,24)        Inf + 0.0000i
 (6,24)        Inf + 0.0000i
 (7,24)        Inf + 0.0000i
 (8,24)    -0.0060 - 0.0425i
 (9,24)        Inf + 0.0000i
(10,24)    -0.0054 - 0.0405i
(11,24)        Inf + 0.0000i
(12,24)        Inf + 0.0000i
(13,24)        Inf + 0.0000i
(14,24)        Inf + 0.0000i
(15,24)        Inf + 0.0000i
(16,24)        Inf + 0.0000i
(17,24)        Inf + 0.0000i
(18,24)        Inf + 0.0000i
(19,24)        Inf + 0.0000i
(20,24)        Inf + 0.0000i
(21,24)    -0.0038 - 0.0285i
(22,24)    -0.0090 - 0.0070i
(23,24)        Inf + 0.0000i
(24,24)     0.0032 + 0.0055i
(25,24)        Inf + 0.0000i
(26,24)        Inf + 0.0000i
(27,24)        Inf + 0.0000i
(28,24)        Inf + 0.0000i
(29,24)        Inf + 0.0000i
(30,24)        Inf + 0.0000i
(31,24)        Inf + 0.0000i
(32,24)        Inf + 0.0000i
(33,24)        Inf + 0.0000i
 (1,25)        Inf + 0.0000i
 (2,25)        Inf + 0.0000i
 (3,25)    -0.0099 - 0.0340i
 (4,25)        Inf + 0.0000i
 (5,25)        Inf + 0.0000i
 (6,25)        Inf + 0.0000i
 (7,25)        Inf + 0.0000i
 (8,25)        Inf + 0.0000i
 (9,25)        Inf + 0.0000i
(10,25)    -0.0099 - 0.0742i
(11,25)        Inf + 0.0000i
(12,25)        Inf + 0.0000i
(13,25)    -0.0092 - 0.0695i
(14,25)        Inf + 0.0000i
(15,25)        Inf + 0.0000i
(16,25)        Inf + 0.0000i
(17,25)        Inf + 0.0000i
(18,25)        Inf + 0.0000i
(19,25)        Inf + 0.0000i
(20,25)        Inf + 0.0000i
(21,25)        Inf + 0.0000i
```

```
(22,25)        Inf + 0.0000i
(23,25)        Inf + 0.0000i
(24,25)        Inf + 0.0000i
(25,25)     0.0037 + 0.0176i
(26,25)        Inf + 0.0000i
(27,25)        Inf + 0.0000i
(28,25)        Inf + 0.0000i
(29,25)        Inf + 0.0000i
(30,25)        Inf + 0.0000i
(31,25)        Inf + 0.0000i
(32,25)        Inf + 0.0000i
(33,25)        Inf + 0.0000i
 (1,26)        Inf + 0.0000i
 (2,26)        Inf + 0.0000i
 (3,26)    -0.0291 - 0.0349i
 (4,26)        Inf + 0.0000i
 (5,26)        Inf + 0.0000i
 (6,26)        Inf + 0.0000i
 (7,26)        Inf + 0.0000i
 (8,26)        Inf + 0.0000i
 (9,26)        Inf + 0.0000i
(10,26)        Inf + 0.0000i
(11,26)        Inf + 0.0000i
(12,26)        Inf + 0.0000i
(13,26)    -0.0016 - 0.0118i
(14,26)        Inf + 0.0000i
(15,26)        Inf + 0.0000i
(16,26)        Inf + 0.0000i
(17,26)        Inf + 0.0000i
(18,26)        Inf + 0.0000i
(19,26)        Inf + 0.0000i
(20,26)        Inf + 0.0000i
(21,26)        Inf + 0.0000i
(22,26)        Inf + 0.0000i
(23,26)        Inf + 0.0000i
(24,26)        Inf + 0.0000i
(25,26)        Inf + 0.0000i
(26,26)     0.0024 + 0.0094i
(27,26)        Inf + 0.0000i
(28,26)        Inf + 0.0000i
(29,26)        Inf + 0.0000i
(30,26)        Inf + 0.0000i
(31,26)        Inf + 0.0000i
(32,26)        Inf + 0.0000i
(33,26)        Inf + 0.0000i
 (1,27)        Inf + 0.0000i
 (2,27)        Inf + 0.0000i
 (3,27)        Inf + 0.0000i
 (4,27)        Inf + 0.0000i
 (5,27)        Inf + 0.0000i
 (6,27)        Inf + 0.0000i
 (7,27)    -0.0025 - 0.0186i
 (8,27)        Inf + 0.0000i
 (9,27)        Inf + 0.0000i
(10,27)    -0.0018 - 0.0139i
(11,27)        Inf + 0.0000i
(12,27)        Inf + 0.0000i
(13,27)        Inf + 0.0000i
(14,27)        Inf + 0.0000i
(15,27)        Inf + 0.0000i
(16,27)        Inf + 0.0000i
```

```
(17,27)        Inf + 0.0000i
(18,27)        Inf + 0.0000i
(19,27)        Inf + 0.0000i
(20,27)        Inf + 0.0000i
(21,27)        Inf + 0.0000i
(22,27)        Inf + 0.0000i
(23,27)        Inf + 0.0000i
(24,27)        Inf + 0.0000i
(25,27)        Inf + 0.0000i
(26,27)        Inf + 0.0000i
(27,27)     0.0010 + 0.0080i
(28,27)        Inf + 0.0000i
(29,27)        Inf + 0.0000i
(30,27)        Inf + 0.0000i
(31,27)        Inf + 0.0000i
(32,27)        Inf + 0.0000i
(33,27)        Inf + 0.0000i
 (1,28)        Inf + 0.0000i
 (2,28)        Inf + 0.0000i
 (3,28)        Inf + 0.0000i
 (4,28)        Inf + 0.0000i
 (5,28)        Inf + 0.0000i
 (6,28)        Inf + 0.0000i
 (7,28)        Inf + 0.0000i
 (8,28)        Inf + 0.0000i
 (9,28)        Inf + 0.0000i
(10,28)        Inf + 0.0000i
(11,28)        Inf + 0.0000i
(12,28)        Inf + 0.0000i
(13,28)        Inf + 0.0000i
(14,28)        Inf + 0.0000i
(15,28)    -0.0067 - 0.0702i
(16,28)        Inf + 0.0000i
(17,28)    -0.0034 - 0.0292i
(18,28)        Inf + 0.0000i
(19,28)        Inf + 0.0000i
(20,28)    -0.0052 - 0.0401i
(21,28)        Inf + 0.0000i
(22,28)        Inf + 0.0000i
(23,28)        Inf + 0.0000i
(24,28)        Inf + 0.0000i
(25,28)        Inf + 0.0000i
(26,28)        Inf + 0.0000i
(27,28)        Inf + 0.0000i
(28,28)     0.0016 + 0.0136i
(29,28)        Inf + 0.0000i
(30,28)        Inf + 0.0000i
(31,28)        Inf + 0.0000i
(32,28)        Inf + 0.0000i
(33,28)        Inf + 0.0000i
```

Published with MATLAB® R2021a