Estimating A, B

Problem 7.1

Contents

Setup

```
Omega = @(omega) ((2*pi) ^ (0.25)) * exp(-1*(omega^2) / 4);
K = 10;
w = -pi:0.0001:pi;
Omega_f = zeros(1, length(w));
```

Estimation

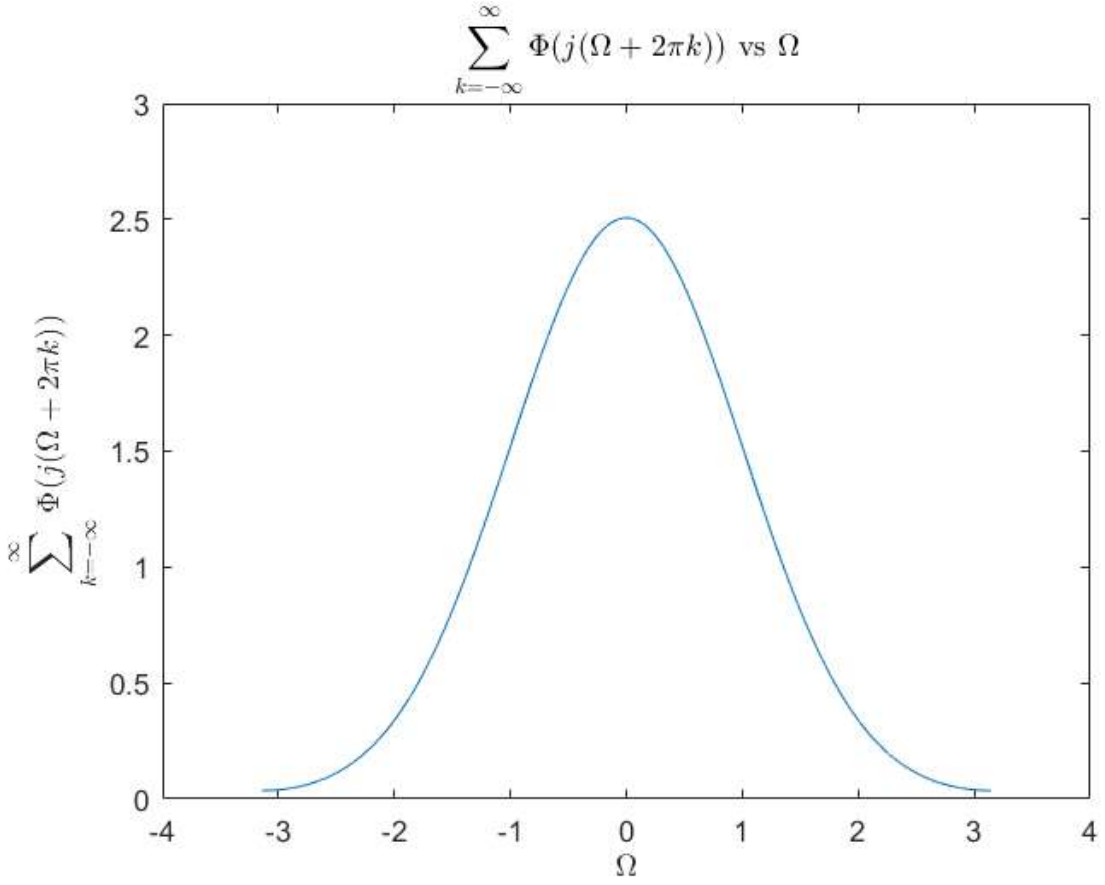
```
for wind = 1:length(w)
    Omega_sum = 0;
    for k = -K:K
        Omega_sum = Omega_sum + Omega(w(wind) + 2*pi*k)^2;
    end
    Omega_f(wind) = Omega_sum;
%     Omega_f(wind) = Omega(w(wind));
end
```

Results

```
A = min(Omega_f)
B = max(Omega_f)

plot(w, Omega_f);
title('$$\sum_{k=-\infty}^{\infty} \Phi(j(\Omega + 2 \pi k))$$ vs $$\Omega$$', 'Interpreter',
 'latex');
ylabel('$$\sum_{k=-\infty}^{\infty} \Phi(j(\Omega + 2 \pi k))$$', 'Interpreter', 'latex');
xlabel('$$\Omega$$', 'Interpreter', 'latex');
```

```
A =

    0.0361
```

```
B =

    2.5066
```



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