

```
clc, clear, close all
datetime('today')
```

```
ans = datetime
    29-May-2023
```

```
A = 0.5;
lambda = 100;
dk = 0.01 * pi;
k0 = 2 * pi / lambda;
w = pi;
x = linspace(0, 500, 2000);
t = linspace(1, 500, 2000);

h = figure(1);
hold on;
ax = gca;

ax.XAxisLocation = 'origin';
ax.XColor = "k";
xlabel('x, м');
set(ax, 'xticklabel', []);
set(gca, 'XTick', []);

ax.YColor = "k";
ylabel('\Re{y}, м');
set(ax, 'yticklabel', []);
set(gca, 'YTick', []);

title('Волновой пакет', 'FontSize', 12);

for i = 1 : numel(x)
    fun = @(k) exp(1i * (k * x(i) - w * t(i)));
    y = (A / dk) * integral(fun, k0 - dk, k0 + dk);
    plot(x(i), real(y), '.', 'Color', 'b');
    drawnow limitrate;
    if (~ishandle(h))
        break;
    end
end
end
```

## Волновой пакет

