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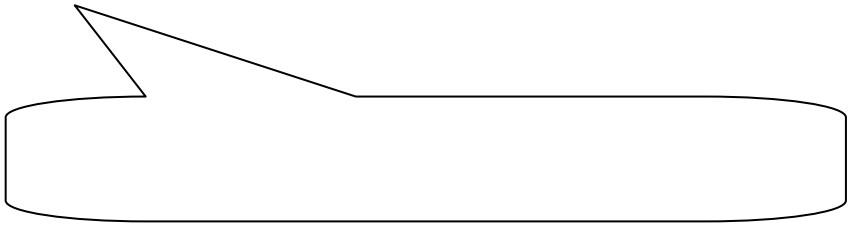

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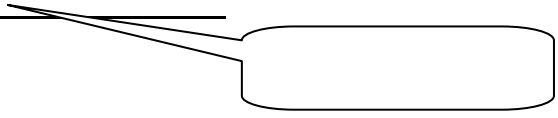

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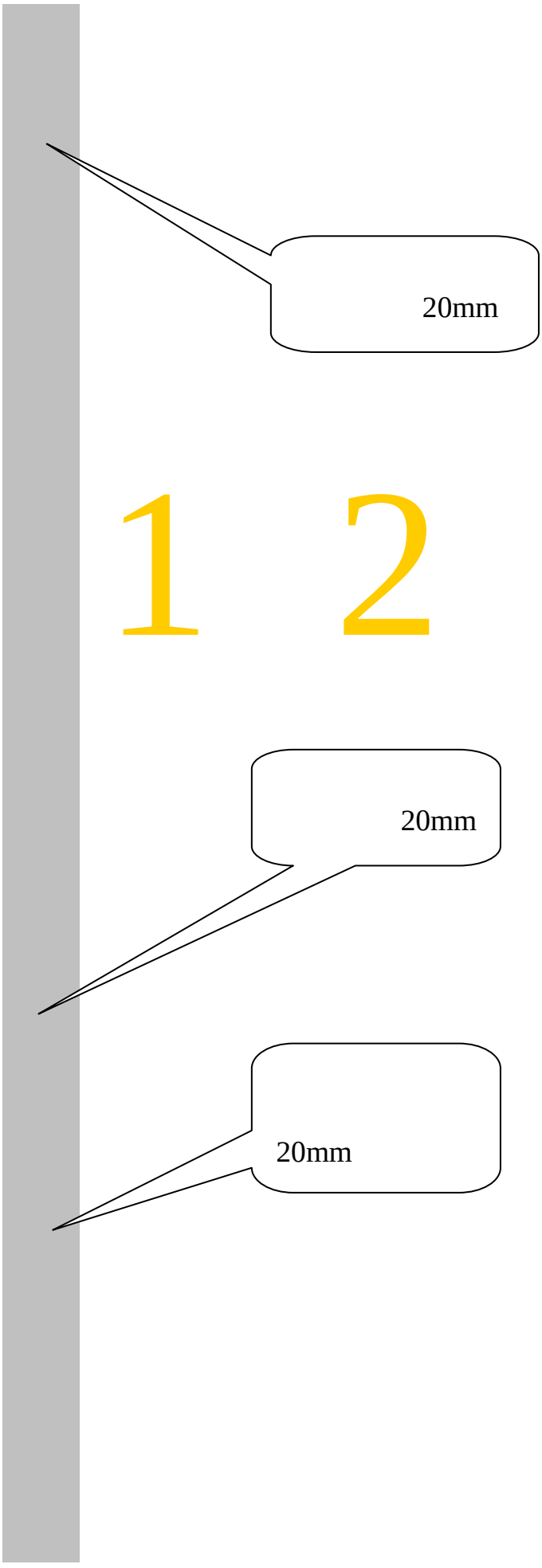
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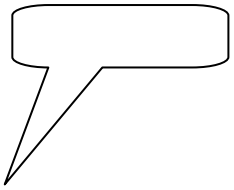

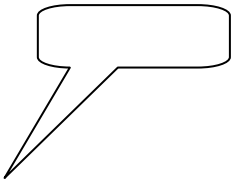

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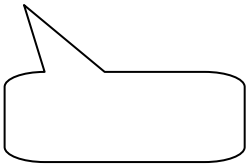

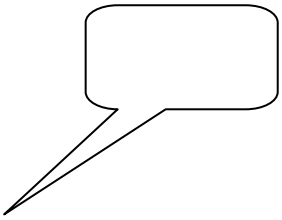

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## Abstract

Fiber-optic reflective displacement sensor attracts much attention for its particular advantages, such as simply theory, easy realization, good stability and so on. With the requirement of wide measurement range and high precision, it is re-designed based on the basic principle of the simplest reflective fiber-optic sensor. For some work having been finished at the beginning of this project, I will mainly describe the electric circuit.

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**Key words** Reflective, Fiber-optic, Displacement, Measuring

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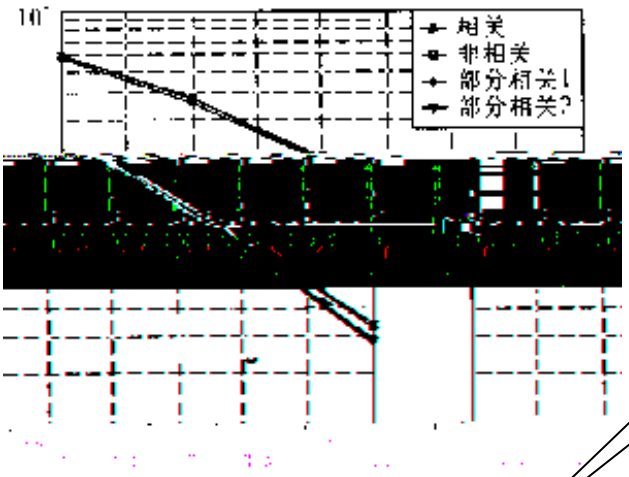
$$\vec{P}_i(u)=\sum_{j=0}^{k}\vec{V}_i\Lambda_i(k;\vec{\beta}_1,\cdots\vec{\beta}_n;u) \qquad 2.3$$

$$\frac{|A(s)|^2}{|A(o)|^2}=\frac{\rho_1\rho_2}{(s+\rho_1)(s+\rho_2)} \qquad 3.1$$

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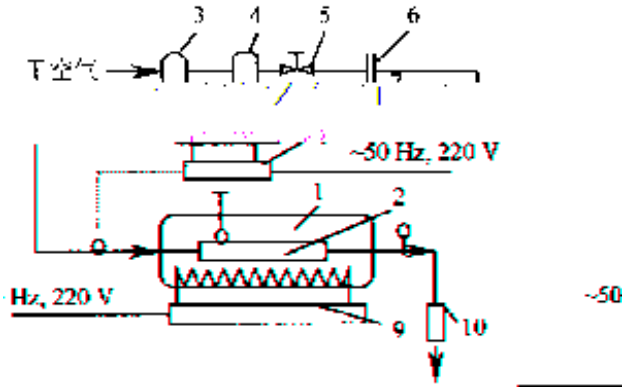


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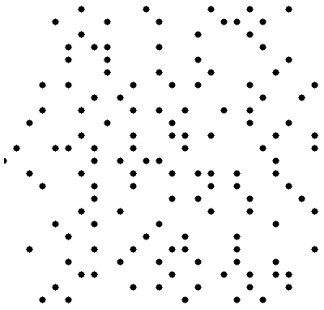
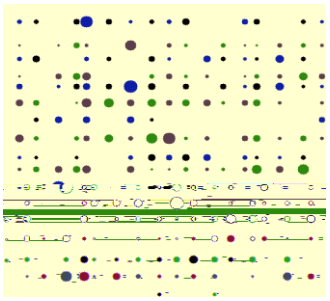


(a) 1/ *f*



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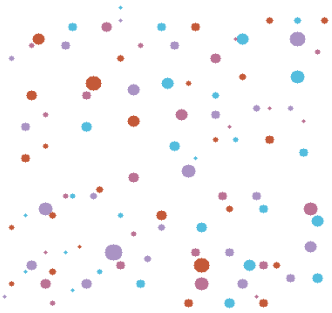

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| | 4 | 8 | 30 | 4.69 |
| | | | 19 | 4.83 |
| | | 4 | 30 | -0.42 |

**3.1** ***lgB$_i$***

| | *T*=1500K | | *T*=2000K | |
|---|---|---|---|---|
| | | *lgB$_i$* | | *lgB$_i$* |
| 1 | $O_2^+$ | 5.26 | $HO_2$ | 6.43 |
| 2 | $HO_2$ | 5.26 | $O_2^+$ | 6.42 |
| 3 | $H_2O^+$ | 4.76 | $H_2O^+$ | 6.18 |
| 4 | $N_2^+$ | 3.97 | H | 6.12 |
| 5 | H | 3.54 | $H_2^+$ | 6.04 |
| 6 | OH | 3.29 | OH | 5.91 |
| 7 | $CO^+$ | 3.26 | O | 5.59 |
| 8 | $H_2^+$ | 2.54 | $N_2^+$ | 4.87 |
| 9 | O | 2.30 | $CO^+$ | 3.98 |
| 10 | $H_2O_2$ | 1.62 | $CO_2^+$ | 3.76 |
| 11 | $CO_2^+$ | 1.40 | $H_2O_2$ | 3.09 |
| 12 | HCO* | -0.47 | HCO* | 0.24 |
| 13 | $N^+$ | -4.85 | $N^+$ | -2.81 |
| 14 | $CH_2O^+$ | -6.91 | $CH_2O$* | -6.13 |
| 15 | $NO^+$ | -16.60 | $NO^+$ | -11.76 |

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[1] [J] , 2001 29(12A) 1923-1927

[2] [M] 1979 15-18,31

[3] [A] 2001 [C] , 2001 739-740

[4] [D] 1998

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[6] [P] 881056078 1983-08-12

[7] GB/T 16159 1996 [S] 1996

[8] ‘ ’ [N] 2000-4-17(B1)

[9] [EB/OL] http://www.cajcd.cn/pub/wml.txt/9808 10-2.html,1998-08-16/1998-10-04

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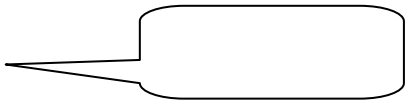

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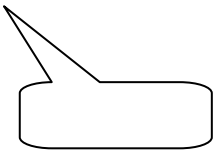

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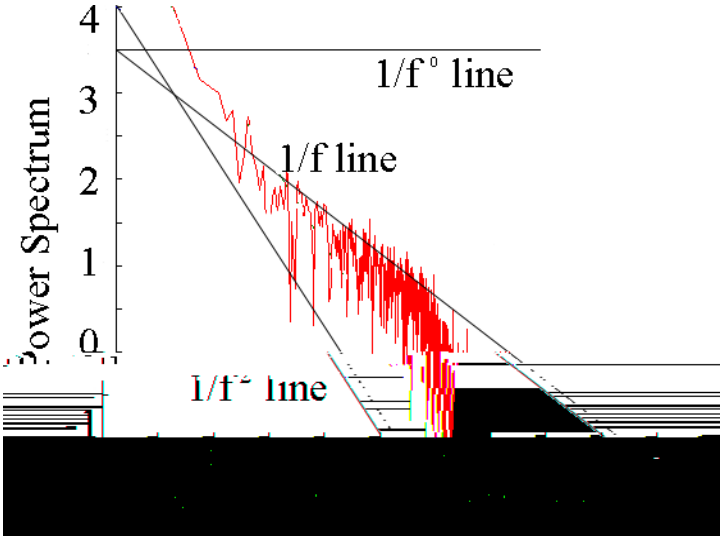


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# B 1/f

```
clear all
close all

M = 2*256;
K = 1;
f = 1:M;
s = K*1./f ;

figure(1);    plot(s); grid;

LOGs = log10( s );
LOGf = log10( f );

figure(4); plot( LOGf,LOGs ); grid;

hh = sqrt( m*s );

m = 2*M-1;
h2( 1:M ) = hh( 1:M );
h2( M:m ) = hh( M:-1:1 );
figure(2);    plot(h); grid;

pp = rand( 1,m );
re = h2 .* cos( pp ) ;
im = h2 .* sin( pp ) ;
hh = re + i*im ;
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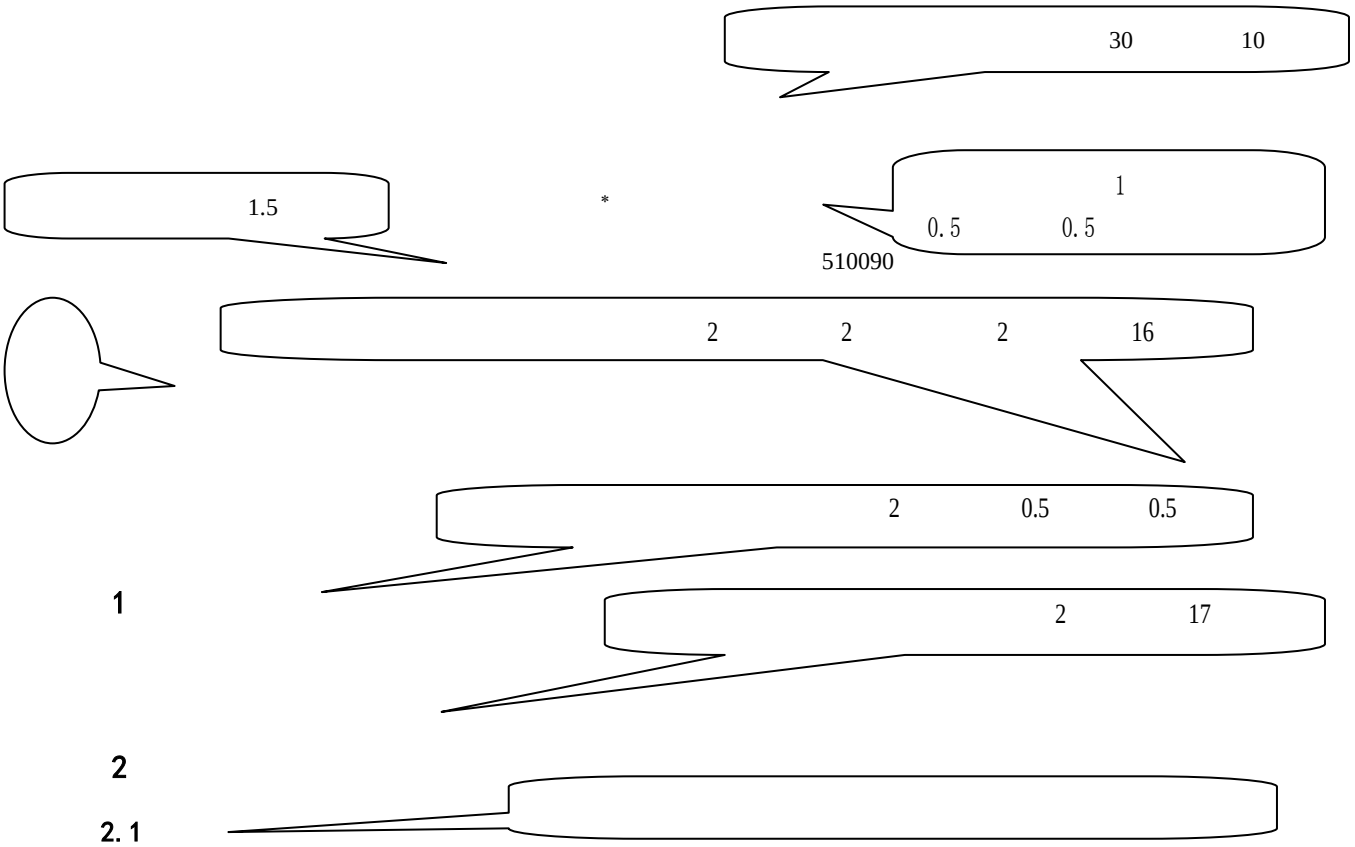


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# The design of the intelligent small area network system

Qile Wang

**Abstract:** The article mostly introduced that the base of the intelligent small area is it's communication

**Key words** Intelligent small area Network HFC

* 1980 2002