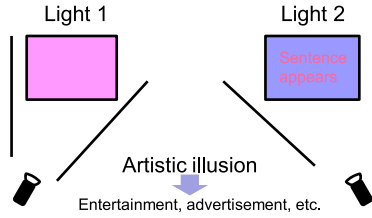
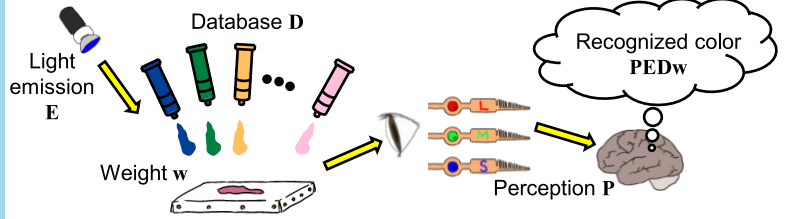


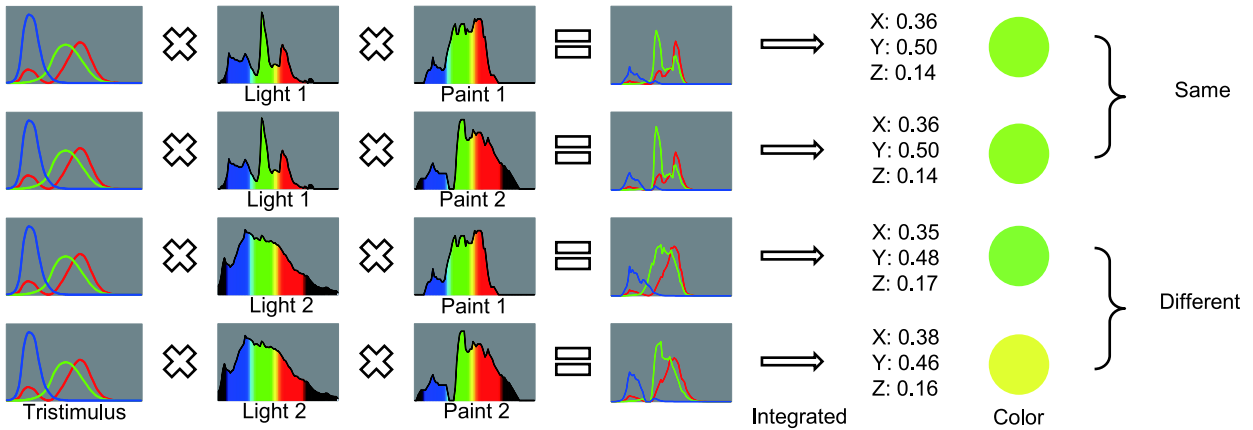
## Application field



## Formulation



## Mechanism of metamerism\*



## Algorithm

$$\arg \min_{w_1, w_2} \left\| PE_1 Dw_1 - PE_1 Dw_2 \right\|^2 - \left\| PE_2 Dw_1 - PE_2 Dw_2 \right\|^2$$

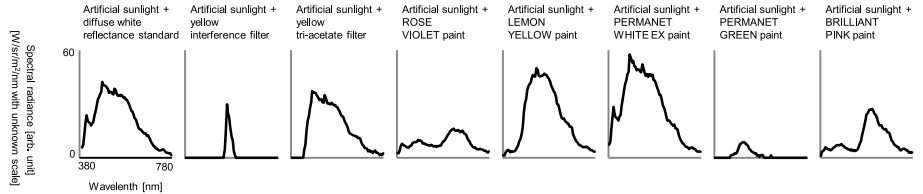
$w_{11} + w_{12} + \dots + w_{1N_p} = 1$   
 $w_{21} + w_{22} + \dots + w_{2N_p} = 1$   
 $0 \leq w_{1n} \leq 1 \quad (n=1, \dots, N_p)$   
 $0 \leq w_{2n} \leq 1 \quad (n=1, \dots, N_p)$

**Simulated annealing**  
based on  
 Nelder-Mead downhill simplex algorithm

## Experimental devices



## Example of measured spectral distribution\*\*



## Experimental result

Database	Paint 1	Paint 2
ROSE VIOLET	0.1%	53.9%
LEMON YELLOW	0.0%	22.1%
PERMANET WHITE EX	23.7%	0.4%
PERMANET GREEN	23.3%	2.8%
BRILLIANT PINK	52.9%	20.7%

Light 1	Light 2	Paint 1	Paint 2
R: 20	R: 7	R: 51	R: 110
G: 108	G: 86	G: 82	G: 19
B: 0	B: 5	B: 23	B: 16