

# Title : Provided by the Workshop

## Programmability

C++

Object-Oriented Programming Language

## Mechanization

<PETE>

Portable Expression Template Engine



Reduction Semantics

Psi - Calculus

Generalized Array Indexing

## Array.h

```
template<class T, int N>
class Array
{
...
template<class RITS>
Array &operator (const Expression<RITS> &rhs)
{
for(long i=0; i<this->size; i++)
d[i] = rhs.eval(this, Eval::eval(0), Op::Combine());
return *this; //equivalent to: a.d[i] = b.d[i]+c.d[i]+d.d[i]
}
...
private:
T * d;
vector<int> shape;
long size;
}
```

## Array.h

integrates with <PETE>

Psi-Calculus platform

N - dimensional capability

( required for processor / memory mapping )

## Performance

Efficient Loops



Operations

## Array.h

